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DIAGNOSIS OF STRICTURES OF THE ESOPHAGUS.*

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If the road to a man's heart is by way of his stomach, then it is no wonder that any interruption in the normal work of this part of his anatomy is fraught with so much concern. While some of its trouble may come from within the tract itself by far the greatest disturbances to which it is heir, come from without and this, not strange to relate, because of his greed of appetite or inquisitiveness about food.

There are some few points which should be common information, namely, the esophagus is ten inches long when measured from the upper teeth to the level of the diaphragm; it is not sensitive to pain and but very slightly to heat and cold; it functionates entirely by reflex stimuli and is not at any time under conscious control; it will not tolerate, except under unusual circumstances, the presence of fluids and will eject these from its lumen in one direction or the other, namely into the stomach or the mouth. On the other hand when some foreign body finds lodgement within its boundary it may harbor this with but little protest and make no effort to rid itself of the stranger other than the interference with food or drink, and if the body be of proper type and in proper place it may find a safe abode for many years.

Its gateway at the level of the cricoid is the narrowest part which is closed by the sphincter like action of the cricopharyngeus. Three other points of narrowing occur at the crossing of the aorta, fourth dorsal vertebra, the crossing of the left bronchus, fifth dorsal vertebra, as its passage through the diaphragm, tenth dorsal vertebra. As would be in keeping these four points represent the most frequent levels of disease, likewise the lodgment of foreign bodies.

It may be compressed in the cervical region by thyroid enlargements, glandular involvements either malignant or not and phlegmonous swellings. In the thorax-mediastinal lesions, spinal curvatures, aneurism, heart, hypertrophies and displacements, pericardial and pleural adhesions, peribronchial, glandular swellings and malignancies of lung or neighboring parts. Subdiaphragmatically the left crus of the diaphragm makes a marked indentation on the left margin and back wall of the oesophagus, and the Spigelian Lobe of the liver hugs the right side. The left lobe is in front and often circles around below the diaphragm—the oesophagus rests on the abdominal aorta. Mosher is convinced that the liver determines the form and position of this portion of the oesophagus.

Viewed from within the entrance to and exit from the stomach are the same in size and bear a definite relation to each other. Since the axis of the lumen of the lower end is at first transverse and because of the flattening as above described becomes anterior-posterior, thus making a pleat or fold, which Mosher shows in addition to the sharp turn to the left or kink. These two factors are concerned in maintaining both fluids and gasses in the stomach.

*Read Before the Louisiana State Medical Society, on April 24-26, 1923.

As a mucous membrane lined tube and the upper part of the food way it is subject to the same inflammations, infiltrations, indurations, ulcerations, simple, luetic and tubercular, tumor formations both benign and malignant, strictures and dilatations and neurosis as are other mucous lined tubes in other localities of the body. And the treatment in this locality is as in other localities, except for total removal, which while having been accomplished a few times is yet too formidable to be recommended.

Since the Oesophagoscope has come into use this whole pathway, including the left two-thirds of the stomach and in some few cases the pyloric third can be seen and studied and practically all of the foregoing situations, diagnosed and treated under the direct view of the operator. In the hands of the trained operator, and only he should operate, there are practically no contra-indications to its use unless the patient be moribund or the road be so twisted out of shape by deformity as not to permit the passage of a straight tube.

Any patient who complains of symptoms referable to the oesophagus, difficult or painful swallowing, regurgitation or vomiting, globus or other sensation should be oesophagoscoped as it is only by this means that we can learn the cause and bring about either a cure or relief in the earlier phases of the disease. With a history of having choked on a foreign body the patient should never be advised to let it alone until X-ray, physical examination and oesophagoscopy have proven negative. If you would but heed this one point, much would be gained for the patient's welfare.

Never attempt the removal of a foreign body with the finger. Besides producing much harmful traumatism one can only push it down and thus do more harm. Probangs—nickle catches of the basket-type usually do more harm than good and at best are very dangerous.

After swallowing lye, the sale of which cannot be too strongly condemned because of the enormous toll of life it has taken, to say nothing of the months of pain and anguish entailed during the treatment of its results, early oesophagoscopy can be carefully done and the lesions treated locally and probable stricture prevented. But in the event of stricture I caution you to watch for water hunger with its dry brash skin, sunken eyes, thready pulse, listlessness and constant regurgitation. Such a patient is a bad surgical risk and will not recover when the occlusion is complete for from three to six days. Under such circumstances a gastrostomy becomes a crying necessity; for proctoclysis, hypodermoclysis or infusion while valuable aids for bridging over a crysis when water hunger is developing, these methods are dismal failures for feeding purposes.

Since by far the greatest number of strictures observed are the result of the injection of some corrosive, as lye, the etiology is quite clear and the history usually makes clear the diagnosis.

I have had the opportunity to see but three cases within a week after swallowing lye. In these I found no difficulty in using the oesophagoscope and of treating the lesions locally in the same manner and with the same drugs used externally and at the same time careful passing of the bougie under sight prevented contraction so that early cure without loss of weight ensued.

In the cases seen where the stricture is fully developed, most of these have come when the child was in dire distress from loss of weight and water hunger. With the development of this stricture there usually occurs dilatation to the point of sacculation of the oesophagus. In this state nothing but the greatest good fortune will save a patient from blind passage of a bougie—soft pliable bougies will not pass and the stiff ones will go through the wall into the mediastinum.

Such strictures are to be dilated gradually by aid of oesophagoscopy—once the stricture is dilated to a number 5 french, swallowing of liquids will be accomplished and when determined by oesophagoscopy that there is no sacculation, a semi-stiff bougie can be passed without the aid of the tube. Daily treatments at first to establish a lumen then tri-weekly then three times in two weeks and so on until once a month. This should be maintained with gradually increasing sizes until solid foods can be

taken, and the bouginage contained for about a year.

I have used rather successfully for the past three years the electrically heated bougie of German make—the idea being that the heat produces an edema of the mucous membrane which edema produces a softening and absorption of scar tissue and observation borrowed from the G. U. department.

Sippy's string swallowing and this guide used—for dilatation has been used but I much prefer the visual method of oesophagoscopy.

DISCUSSION.

Dr. W. T. Patton (New Orleans): I want to emphasize what Dr. Lynch has said about labeling lye. This matter has been taken up by the American Medical Association, but the people who manufacture lye are so suspicious—each one is afraid the other fellow will put something over on him. To see these little children come into the hospital is pitiful. Some states have a law that lye must be labeled with the poison label, but the print is so fine you can hardly read it. But if there was a large skull and crossbones on each can it might do some good.

I wish Dr. Lynch in closing would say how soon he thinks a case should be dilated after the ingestion of lye or other escavofigs substances. Recently someone said you should go in at once before erosion takes place. I would say wait about six weeks. I would like to have his opinion.

But do not wait too long to operate, until the child has gone to pieces, for water hunger comes on and we have to give him an anaesthetic, and he dies on the table from shock.

The doctor spoke about leaving the bougie in the esophagus. We leave it in for ten minutes if possible, and get beautiful results.

Dr. D. N. Silverman (New Orleans): Diseases of the esophagus are not infrequent conditions. We quite often see patients who complain of difficulty in swallowing, and I believe that this is the first sign of trouble in the esophagus. Certainly pain is very late.

As regards stricture formation, I think in such cases the X-ray is of inestimable value. Certainly the X-ray localizes the stricture and gives us an idea as to the dilatation of the esophagus and whether there is diverticula formation as a result of this dilatation. However, the esophagoscope takes precedence in the early diagnosis of ulceration which subsequently may cicatrize as well as in the treatment of the stricture.

Drs. Lynch and Patton spoke of restricting the sale of lye. That would be excellent legislation, but who is going to restrict the sale of poisoned liquor? Moonshine whiskey, as we have been told, very often contains lye. I have here a patient that I would like to show you.

This boy is twenty years of age, and he states that in November, 1922, he had typhoid fever—or that is what the doctor told him. After four weeks of illness he developed difficulty in swallowing, and the condition gradually grew worse until at the present time he is able to take only liquid food. Going back of the history of typhoid, he said he drank a good deal of moonshine whiskey—all he could get—and it made him feel badly, burning his mouth; but there was no burning of the esophagus before six weeks after taking this whiskey, or immediately following the typhoid fever. The question of diagnosis is—is it due to the most probable cause, lye, or is it due to typhoid fever. Williamson of Chicago quotes Keen as reporting two cases of stricture of the esophagus following typhoid fever.

This radiogram was taken about five or six weeks ago, and as you see we have a definite stricture at the level of the sixth and seventh ribs posteriorly. I attempted to place a very small olive in the esophagus but found it gave him a great deal of distress, and he expectorated a small amount of blood. That is as far as we have gone in the treatment.

Dr. L. H. Landry (New Orleans): Before the advent of the esophagoscope, we were able to treat stricture of the oesophagus and cardiospasm and have had uniformily good results. I wish to emphasize one feature of the treatment which has been of great help, even where there is considerable sacculation of the oesophagus; that is, making the patient swallow string; it makes no difference how much pouching may be present in the oesophagus, if water can find its way through into the stomach, the string will eventually follow; we have had no case in which the string was unable to get into the stomach. Once the string is through, we have an excellent and safe guide over which dilatations can be done with little inconvenience to the patient.

Dr. R. C. Lynch (closing): In regard to the time of dilatation after the ingestion of lye, it has been my good fortune to see two such cases, and in those we started it at once. Contrary to the usual idea that it is dangerous, we found no trouble in passing the esophagoscope and treating the lesion, and practically prevented stricture formation. Those cases came to complete convalescence and retained the tube a much shorter time than if we had allowed the stricture to occur. In the hands of a trained operator I would advise beginning local treatment immediately of the lesions.

We left the hot bougie in for twenty minutes, heated to 120° F.

TheX-ray diagnosis of lesions of the esophagus is well known and extremely useful. We have passed the time when we have to make a diagnosis of stricture of the esophagus by the process of deduction, because the esophagoscope shows the stricture. However, the swallowing of a bismuth capsule will help in showing the point of stricture formation. The swallowing of string in the process of dilatation is a method which is practically beyond discussion. It is as justifiable as any other means we have, and where those who use the dilators are not using the esophagoscope, then the string offers a fairly safe guide. However, in case you have complete stricture the string will float and not go down into the stomach, and then it is a failure.

SOME SUGGESTIONS AS TO THE REMOVAL OF PLEURAL EFFUSIONS.*

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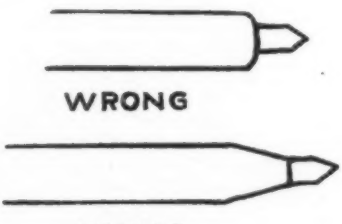
The object of this paper is to urge the use of a properly made trocar and canula, instead of the needle, for aspiration of the chest, and to present for consideration an assembled outfit that seems to meet all requirements. This outfit consists of a 20 mil Luer syringe and a Potain aspirating outfit. This Potain aspirator is made with a connection to fit the regular Luer type of needle. Also, the outfit includes a trocar and canula, the canula being of a type to fit the regular Luer syringe. This also fits, of course, the connection of the Potain apparatus. This canula is about a 16 gauge. The particular feature of the trocar and canula is the gradually sloping shoulder coming back from the point of the trocar onto the canula, as shown in the enlarged exaggerated illustrations below:



This feature facilitates the introduction of the instrument.

Before beginning the operation the entire equipment should be carefully prepared for use. The trocar and canula is introduced, the trocar removed, and, if thin fluid flows out, the Potain suction apparatus is attached. If fluid does not come from the canula when the trocar is withdrawn, the Luer syringe is attached and suction made. The advantages of being able to change from one to the other are:

1st. Thick fluid usually cannot be removed by the Potain outfit, while all necessary force can be exerted with the Luer syringe.

2nd. If, during the removal of fluid with the vacuum bottle, the canula is stopped, the Luer syringe containing a small amount of air can be attached and the canula opened by forcing the air through it.

It is certainly an advantage, whenever aspiration is done even for diagnostic purposes, to remove the proper amount of any material found and to do it through the original instrument introduced.

My urging of the trocar and canula instead of the needle is based on the following reasons:

(a) A needle is more apt to become plugged in being introduced.

(b) A needle is more apt to injure a blood vessel in being introduced.

(c) A needle is more apt to enter the lung when it is being introduced, just as it would be more apt to injure the intestines if used in removing ascitic fluid.

(d) The needle can not be manipulated after introduction, when in search of fluids, with the same freedom from danger.

(e) The needle is more apt to injure the visceral pleura, or even cut into the lung towards the close of the process. If the needle is introduced ever so well into the fluid, it still must project beyond the chest wall and when the fluid has been removed to the extent that the lung again approaches the chest wall, the lung then begins to drag against the sharp point of the needle during the respiratory movements and damage is apt to be done. The visceral pleura may be damaged to the extent of forming a site of lowered resistance and favor infectious processes, or the needle may cut into the lung substance, letting in organisms from the bronchial passages. A pneumo-thorax may be produced. I can remember when pain and blood-tinged fluid were rather expected toward the close of the operation and the subsequent aspirations were rather expected to show pus.

The trocar and canula shown here, if it is kept highly polished, can be introduced with almost as much ease as can a needle of sufficient calibre to meet all requirements.

The danger of letting in air and producing a pneumo-thorax when remov-

*Read Before the Orleans Parish Medical Society, on October 27, 1923.

ing the trocar and making or changing connections has been suggested. In my own experience this has not been a factor. The small amount of air that could enter through a canula of this size during the short periods required to carry out these measures would have no disadvantages. In many cases there is rather a tendency for fluid to spurt out rather than for air to be sucked in, and this will always be the case if the canula is only opened when the patient forcibly exhales and then waits until the connection is made.

I wish to make acknowledgments to Messrs. Becton, Dickinson & Company for their cheerful co-operation in carrying out my suggestions in arranging this outfit.

DISTURBANCES OF THE THYMUS GLAND IN CHILDREN.

BY C. J. BLOOM, M.D.,
NEW ORLEANS.

Diseases of the thymus gland have occupied but a minor place in the literature of clinical medicine. Although as yet no definite endocrine function has been accredited to it, there are conclusive deductions regarding the important functions exercised during the period of greatest development—namely, in infancy.

Through omission, many of us have overlooked instances where clear cut clinical syndromes were absent merely because a closer knowledge of the various pathological pictures were wanting.

An added desire to thoroughly discuss the more radical usages of X-ray and radium in the future treatment of thymic diseases, and a plea for an X-ray exposure of all cases having thymic disturbances and tendencies and who are future surgical prospects, have been responsible for the presentation of this paper today.

Since the days of [39]Plater in 1614 up to the present day, the medical profession as a whole has been interested in the subject of the various entities associated with thymic disturbances. In order to give one a proper conception of the various pictures associated in pathological thymic syndromes, the writer shall endeavor to briefly include a short explanation of the anatomy, histology, physiology, and pathology of the thymus gland.

Anatomy: Gross Morphology and Relations.

The thymus is a soft, white, fusiform mass in which two lobes can easily be distinguished, the left often being the

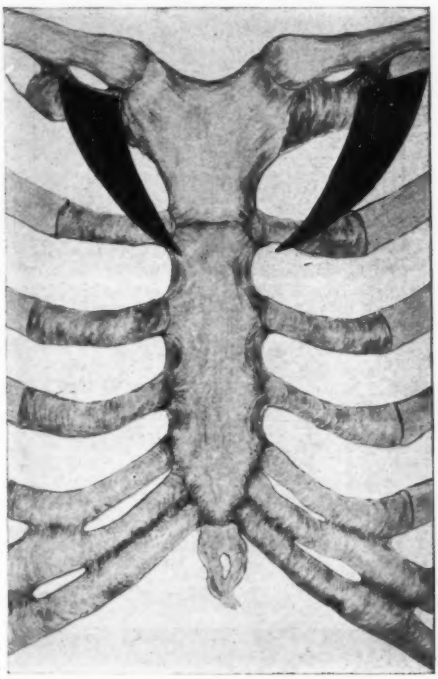


Figure No. 1
Position of Thymus

larger, and are in contact for a certain distance along their inner margin. It is situated chiefly in the thorax, although at times it may extend into the region of the neck to a variable extent—usually not more than two centimeters.

The fourth costal cartilage generally marks its caudal extremity, but at times it can extend as far down as the diaphragm. Ventrally, it is in relation with the sternum, the origin of the sternothyroid muscles;—the sterno costal and the sterno clavicular articulation, and the internal mammary arte-

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Figure No. 2

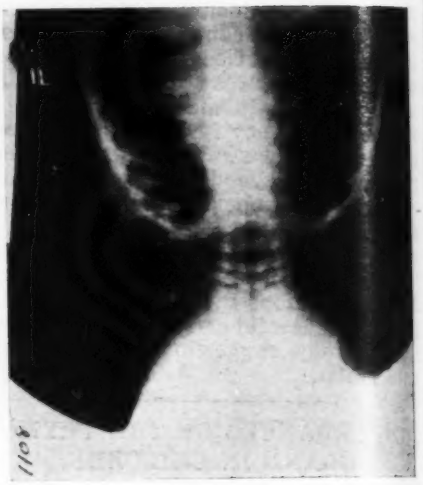

Figure No. 4

Figure No. 3

Figure No. 5

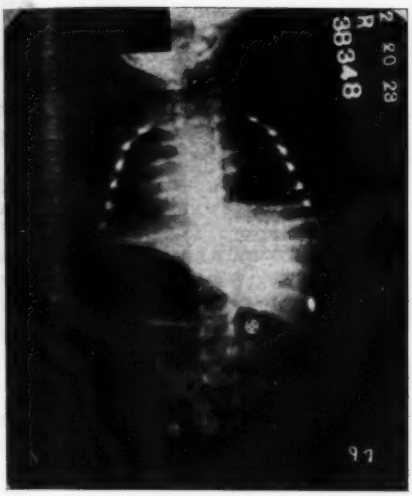

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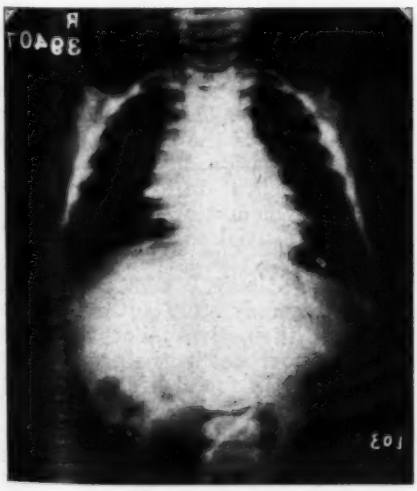
Figure No. 8



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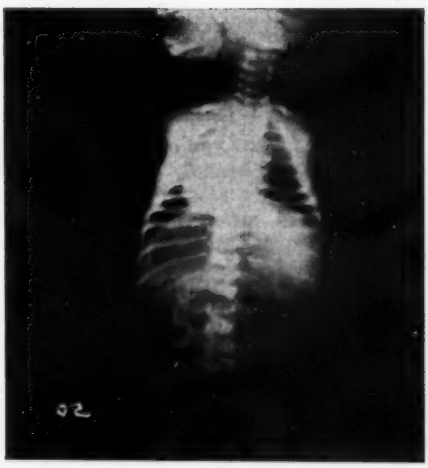

Figure No. 9

ries. Dorsally, it comes in contact with the aorta, superior vena cava and their branches, the pulmonary artery and the pericardium. Laterally, it is bounded by the pleural sacs and phrenic nerves.

A dense capsule surrounds the glands, portions of which penetrate in between the lobules dividing the glands into cortical and medullary portions. Occasionally, small fragments of thyroid and para thyroid masses can be noted.

Blood Supply and Lymphatics.

Lymphatic plexuses enclose the lobules and accompany the artery. The pre-laryngeal and cervical lymph glands drain these lymphatics.

Anatomy—Tables of Weights of Thymus Glands.

HARDESTY
(Fresh Gland Tissue)

1 to 5 years	13 grams
6 to 10 years	23 grtms
11 to 15 years	38 grams
16 to 20 years	26 grams
21 to 35 years	20 grams
26 to 35 years	20 grams
36 to 45 years	16 grams
46 to 55 years	13 grams
56 to 65 years	10 grams
66 to 75 years	6 grams

FRIEDLEBEN.

Birth	14.3 grams
1 to 9 months	20.7 grams
2 to 24 months	27.3 grams
2 to 14 years	27 grams
15 to 25 years	22.1 grams
25 to 35 years	3.1 grams

OLIVIER.

Birth	4 grams
1 year	6 grams
2 years	8 grams
3 years	10 grams

HOSKINS—SLIGHTLY MODIFIED.

	Thymic Weight	Thymic Parenchyma	Thymic Pct. Body Weight	Lymphocytes in Blood Pct.
Birth ..	13.3 gms.	12.33 gms.	.04	61
2-6 yrs...	23 gms.	19.26 gms.	.01	55.5
9 yrs.....	26 gms.	22.08 gms.	.009	36
14-18 yrs.	37.5 gms.	25.18 gms.	.008	25
18-20 yrs.	25.6 gms.	12.71 gms.	.004	23

Size—The size varies within wide margins mainly because the weight of the gland includes also the fat and connective tissues surrounding it. The weight increases up to puberty when involution takes place—although occasionally this may occur prior to the subsequent period. The absolute weight of the gland as a whole is not greatly altered because the loss of the lymphatic tissue and parenchyma is compensated by the increased amount of fatty tissue. The average width is from 2 to 3 cm. and the longitudinal diameter may reach 11 1-2 cm.

Variations in Size.

1. In lower animals—maintenance diet reduces weight.
2. Starvation in man reduces the size of the thymus.
3. Castration increases the size of the thymus and delays involution.
4. Thyroid fed to pregnant animals increases the development of the thymus in the fetus.
5. Aplasia or complete lack of development of the thymus has been recorded.
6. A small thymus situated in the superior thoracic inlet—where the esophagus and trachea pass through an inflexible medium can produce death [22] (Bruce and Graves.)

Innervation.

The branches of the cervical sympathetic and the vagus penetrate the organ with the blood vessels, and small branches of the phrenic and decendens hyperglossi enter the capsule.

Histology.

The glands are divisible into primary and secondary lobules and the latter into cortical and medullary portions. Connective tissue occupies the space between the portions mentioned. The cortex is densely packed with cells indistinguishable from lymphocytes, and the medulla includes the corpuscles of Hassal, formed of epithelial cells and in turn reticular cells formed from them.

Physiology and Experimental Pathology of the Thymus Gland.

1. Restelli in 1845 in experimenting on sheep, dogs and calves, found that practically all of the animals died after thymic extirpation.

2. Friedleben in 1858, concluded after experimentation that the thymus was not essential to life, but that the extirpation of the spleen and the thymus was necessarily fatal to life. He thought as many other authorities have expressed themselves that this gland was of importance in the production of erythrocytes in foetal life, and perhaps of lymphocytes in life, and also an aid in the nutrition and growth of the body.

3. Langerhans and Saveliew in 1893 did not note any significant changes in the animals as a result of

thymus extirpation, but practically all of the rabbits and dogs died as a result of this procedure. Other men, as

4. Taurulli and LoMonaco in 1897,
5. Abelous and Billard in 1896,
6. Camia in 1900
7. Verwecke in 1899.
8. Vincent in 1903.
9. Carbone in 1897.
10. Ghika in 1901.
11. Fishlin 1907.
12. Basch in 1902 to 1908.
13. Matte in 1913, and
14. Pappenheimer in 1914, and

many others have experimented with different animals with questioned deductions.

Apparently, with proper precautions and asepsis at the time of the extirpation of this gland is practiced—no other animal than the frog is apt to succumb as a result.

From all available evidence from extirpation experiments, proof has yet to be established that the thymus has a definite endocrine function.

In connection with the work of Basch —and to a lesser extent, Fishl—experimenting with dogs, they found that thymectomies limited the growth of bone and calcification of bone; that the peripheral nerves were more excitable to galvanic current than the control animals and also noted frequent convulsions. Naturally, the bones were softer and more flexible, the gait more or less awkward, the bowing or bending of the long bones to an extreme degree.

Fracturing of the bones was easily produced and the healing process naturally prolonged.

These were some of the more important deductions that lead one to consider the possibility of the consideration of the thymus as a probable source or associated organ in the production of tetany.

Although many authorities claim that the thymus gland is the seat of erythrocytic formation in the fetus, and that the thymic cells are nothing more or less than lymphocytes, and even though [15]Dauckakoff has shown that these cells give rise to plasma cells and polymorphonuclearleucocytes, still proof is wanting to substantiate that this gland has a true endocrine function.

The lymphogenic function unquestionably is concerned with the defensive mechanism against infections.

Pathology of the Thymus.

(1) *Thymus Aplasia and Hypoplasia* often noted in children with mental disturbances.

[16]Bourneville found the thymus absent in 70 per cent of 28 mentally defective cases, and [17]Sajous believes that the deficient activity of the thymus results in a deficiency of nucleins supplied to the brain through the lymphocytes causing idiocy. This fact is also borne out by [18]Harrower, who states that hypoplasia is found in conjunction with mental defectiveness.

(2) *Active and passive congestion.*

(a) Hemorrhagic cysts of the thymus (congenital syphilis); (b) diffuse haematoma of the thymus; (c) punctate haemorrhage of the thymus.

(3) *Acute Thymitis*—Secondary to metastatic infection (Staphylococcus, Streptococcus, Colon Bacilli—through hematogenous route). Noted either in the parenchyma or in existing cysts. (Symptoms—pressure, tracheostenosis, temperature, pressure on the sternum, leucocytosis, polynucleosis.)

(4) *Acute Infections and Thymus*—Interesting facts regarding thymus and acute infections:

1. The thymus gland is three times larger than normal in most of the acute diseases.
2. There is a marked atrophy in chronic conditions.
3. Necrobiotic changes in lymphocytes seldom seen except in diphtheria.
4. Thymus often times enlarged in diphtheria, but sometimes atrophied where this disaese is associated with scarlet fever.
5. Positive cultures have been obtained in the thymus in children having died of acute infections, and it is believed that bacteria are more often cultured from this gland than either from the spleen or the liver. Seldom involved secondarily in either leukemia or Hodgkin's disease.

Conclusions: Infectious diseases produce a hyperplasia of the thymic elements, particularly affecting Hassal's

corpuscles. Other clinical involvements of the thymus such as sclerosis of the thymus in malnutrition, syphilis, etc.

Tertiary syphilitic manifestations of the thymus are sometimes noted, but is most uncommon.

(5) *Tuberculosis of the Thymus.*

Primary tuberculosis of the thymus is extremely rare. Jacobi having examined 100 thymi of tuberculosis patients and found it in three out of sixty cases in patients having died from any kind of disease other than tuberculosis and found it in one-fourth of all the cases that had succumbed to tuberculosis.

In all cases he was able to demonstrate the presence of the tubercle bacilli.

(6) *Tumors.*

Tumors of the thymus are seen more often than has been considered by most practitioners.

Among the benign thymomata that have been reported are lipoma, myxoma, fibroma, dermoid cysts and cysts. Among the more common malignant growths of the thymus gland are the sarcomatous thymomatous and the carcinomatous thyoma. Of unusual interest and importance is the fact that we never encounter metastasis of malignant growth in this organ.

Clinical Syndromes.

There are eight clinical syndromes associated with disturbances of the thymus gland, namely:

1. Thymic Asthma. 2. Mors Thymica. 3. Status Thymicolymphaticus. 4. Timme's Multiglandular Syndrome. 5. Thymus in Exophthalmus Goitre. 6. Myasthenia Gravis. 7. Thymus in Tetany, and 8. Thymus in Prostatitis.

This paper includes the clinical entities encountered in diseases of children, namely—thymic asthma, mors thymica, status thymicolymphaticus and thymus in tetany.

Thymic asthma originated with [19]Kopp in 1829, and from this time on, this condition has been of extreme interest in the eyes of the pediatricians and general practitioners. Only recently, [20]Chevalier Jackson discovered at the time of operation on one of his patients a case that had, perhaps, escaped observation and says: "On passing one of my bronchoscopes, I discovered a scabbard trachea with a chink of not over two millimeters on inspiration and one millimeter on expiration, the obstruction extending from the second to the fourth rib. The tracheal mucosa was collapsed from before backward almost in contact."

There was permanent relief by thymectomy. The more important symptoms associated with this condition are:

1. Respiratory stridor—particularly an inspiratory stridor audible at considerable distance.
2. Breathing abnormal, considerably accelerated, sometimes noted within 24 hours or 48 hours after birth.
3. Skin—lips and nails evidence cyanosis, due, perhaps, to a tracheo stenosis.
4. Epigastric retraction, marked.

This disease is encountered only in infancy.

Mors thymica is generally associated with sudden death in previously apparently healthy child. [20]Grawitz considered the question of death influenced either by a mechanical or a chemical cause, both of which are discussed under previous headings.

Status Lymphaticus—Dunn has advanced the explanation that the principal theories other than that of pressure have been explained either by:

(1) A hyperthymization. (2) Intoxication from faulty tissue change, and (3) Intensified anaphylaxis.

"As a rule, the cases divide themselves into two distinct groups where the dyspnoea may be either continuous or intermittent, the former being seen more often in very young infants. There are periods when respiratory difficulty increases and terminates in a suffocative attack associated with intense cyanosis, and continues in repeated attacks at various intervals, although there is limited dyspnoea between the attacks. The stridor is intensified during the attacks, but may be present in the interim. The intermittent form is more commonly seen in the experience of pediatricians, occurring often in the latter part of the first year, and occasionally in the second year—is characterized by paroxysms of difficult breathing being apparently normal

between attacks. The picture is either that of a sudden suffocative attack associated with cyanosis and difficulty in breathing or else the paroxysms last longer, but are less intensified. The breathing is extremely rapid, not so laborated, limited cyanosis, and suffocation is rarely seen. Stridor is also not necessarily associated with this particular picture. The duration may last anywhere from a few hours to several days.

"In status lymphaticus the thymus is from five to ten times larger than normal, weighing as much as 60 grams; all of the lymph nodes are enlarged, particularly the mesenteric. Peyer's patches, the lymphoid tissue of the pharynx, the lymph nodes of the body as a whole, the follicles at the base of the tongue and the spleen are all markedly hypertrophied."

This entity is a menace because—

1. It is attended by instability of lymphoid tissues—capable of expression varying from simple urticarial rashes to sudden death.
2. It is responsible for lowering the threshold of infection, particularly through the avenues of the respiratory and intestinal tracts.
3. Defective development of the muscular coat of the arteries renders them incapable of this standing, changes in blood pressure that are lightly borne.

Thymus in Tetany.

This clinical syndrome is considered because in experimental pathology of lower animals where thymectomies have been performed, there is apparently a calcium deficiency and tetany. The skeleton shows underdevelopments in length, the epiphyses are abnormal, soft and deformed. Fracture healing occurs with little callous formation and sometimes one is inclined to consider the possibility of rickets as occurring with certain alterations of the thymus.

General Symptoms—Death.

Tamassia states that it requires the weight of 180 grams and Scheele puts the weight at 750 to 1,000 grams to exert sufficient pressure on the trachea to produce either cyanosis or death. But, on the other hand, if one considers that the space between the manubrium and the spinal column in the newly-born measures only two to three centiters and that this diameter can be decreased by throwing the child's head backward, one must readily accept that a death by pressure is possible.

Sudden death has been reported by many as due to a shock precipitated either by a fall, accident, anesthesia, surgical operations, acute disease, a cold bath, and the injection of an antitoxin.

There are also three types of cases in which sudden death occurs:

1. The child is apparently healthy and no other cause is discoverable.
2. It is associated with the presence of some other disease adequate or inadequate to produce the fatal issue.
3. A definite cause of death is present, but one which is insufficient to produce it in a normal child.

Interesting Facts.

1. A pigeon breast is not associated with an enlarged thymus.
2. It is believed by some that there is a relation between status lymphaticus and scrofula.
3. Of 5,652 autopsies at Bellevue Hospital, status lymphaticus occurred in 451 or in 8 per cent—six times more common in males than in females.

Differential Diagnosis.

Cyanosis: From the standpoint of thymic disturbances must be differentiated from—

1. Congenital Heart Disease. 2. Congenital Atelectasis. 3. Small anterior fontanelle and overlapping of cranial sutures (Bloom). 4. Sepsis. 5. Tetanus, and 6. Pneumonia.

Sudden Death from the standpoint of thymic disturbances must be differentiated from:

1. Malformation. 2. Internal Hemorrhage. 3. Asphyxia from overlying. 4. Asphyxia from aspiration of food into the larynx or trachea. 5. Atelectasis. 6. Marasmus. 7. Convulsions in children showing no special signs of disease. 8. Asphyxia in older infants and young children, and 9. Death after a few hours' illness in which the chief symptom is high fever.

Stridor (*stridulous dyspnoea*) from the standpoint of thymic disturbances must be differentiated from:

1. Enlargement of bronchial lymph nodes. 2. Retropharyngeal abscess. 3. Membranous laryngitis. 4. Catarrhal spasm of the larynx. 5. Laryngospasm. 6. Congenital laryngeal stridor. 7. Foreign body. 8. Bronchial asthma. 9. Spasmodic croup. 10. Influenzal croup. 11. Malformation of larynx and epiglostis. 12. Intralaryngeal obstruction. 13. Polypi. 14. Adenoid hypertrophy. 15. Oedema of glottis. 16. Fracture of trachea, and 17. Enlarged mediastinal and bronchial glands.

Methods of Diagnosis.

1. Objective signs. 2. Percussion. 3. X-ray. 4. Diagnosis by elimination discussed under differential diagnosis.

1. *Objective Signs.*

Objective symptoms in many cases justify clinical diagnoses and described as rather typical of some thymic disturbance a child with a fair amount of adipose tissue, pale and pasty in color. Enlargement of the adenoids and tonsils with general adenopathy of the superficial lymph nodes is evidenced. The area of thymic dullness is increased and the spleen is remarkably enlarged.

2. *The Threshold Method of Percussion.*

Placed on a firm table, the arms clasped about the head, the head held in semi-flexion—the body is maintained in the median position. Use a light stroke, go more by tactile sense of resistance than by sound. Determine the mid sternal line. Percussion is negative, if no dullness or if dullness extends no more than *7-8 of an inch to the left* of the sternal line—not more than *1-2 inch to the right.* Anything over this is equivalent to an enlarged thymus, especially if the dullness is continuous with the cardiac dullness below. If dullness is noted, and it is due to an enlarged thymus, it will disappear on putting the head in extreme dorsal flexion. Many describe the area of normal thymic dullness as an irregular triangle of which the base is at the sterno-clavicular junction and the apex at the second rib just at the left of the sternum. When the dullness is continuous with the cardiac dullness, concealing the note of the pulmonary resonance between the heart dullness and the area of the normal thymic dullness, this is a further evidence of an enlargement of the thymus. At times the thymus may be felt in the episternal notch.

3. *X-Ray.*

If the objective sign and percussion are in accord with the possibilities of an enlarged thymus an X-ray should always be made.

On the other hand, should an X-ray be made and prove negative, with positive symptoms, treatment should be instituted, nevertheless. For let me emphasize most emphatically that while the size of the gland does play an important role in symptoms observed, still the enlargement antero-posteriorly and an enlargement upward into the superior thoracic inlet can precipitate death as previously illustrated.

BRIEF RESUME OF CASES.

CASE 1.

Seen first at 9 months. Cyanosis at birth. Thought previously to be due to traumatic injury. Extremely fat. 32 pounds 8 ounces. Lymphocytosis. Difficulty with inspiration. Diagnosis: Thymic asthma. Confirmed by X-ray. One application seemed to suffice.

CASE 2.

Age 6 months. Referred by Dr. Philip Carter. History of adenoids. Peculiar inspiratory stridor. Occasionally cough simulating whooping cough and with history of frequent colds. Pale and pasty in color. question of adenoids had been considered and enlargement of thymus could not be eliminated. X-ray confirmation. One exposure of radium 525 mg. hours. Size was considerably decreased when second picture was made three months after treatment.

CASE 3.

Age 2 weeks. Lymphocytosis; asthmatic breathing, croupy cough, with peculiar respiratory stridor. X-ray confirmed diagnosis. First application of X-ray at 1 1-2 months. Three exposures altogether, two weeks apart. All symptoms disappeared. Diagnosis: Thymic asthma.

CASE 4

Age 7 months. Mucus in throat. Seems to choke at times. Hemoglobin 70%. Total white count 10,750. Small 81, large 3. Neutrophiles 16. Questionable diagnosis of enlarged thymus. X-ray confirmation, thymic asthma. Two applications of X-ray two

weeks apart with absence of symptoms thereafter.

CASE 5.

Age 5 months. Cyanosis, difficulty in breathing with a history of improvement with successive exascerbations and improvement, etc. Diagnosed as whooping cough. Diagnosis, thymic asthma confirmed by X-ray. Three X-ray irradiations two weeks apart with disappearance of symptoms.

CASE 6.

18 days old. Cyanotic spell. Wheezing inspiration. Marasmic child. Diagnosis: Thymic asthma, confirmed by X-ray. X-ray applications on the 19th day, 29th day, 41st day, disappearance of all symptoms. History of older brother having died of cyanosis at birth.

CASE 7.

5 1-2 months. Pasty looking, underweight, mild evidence of rickets. Sarcoma of buttocks. No symptoms warranting a diagnosis and X-ray was taken to determine whether or not there had been any metastasis in the lung.

CASE 8.

16 months. Convulsions since 6 months of age, increasing in intensity and number. Blood count 8,500; small 82%, large 0, neutrophiles 18%. Four applications of X-ray within two weeks. Spells have not diminished in number and seem to have become more pronounced in duration. Wasserman, father positive, mother negative, child negative. Three blood pictures made respectively 7, 9 and 10 months after last X-ray revealed the following:

Large 7, small 47, N. 46; total 6,000.
Large 6, small 25, N. 69; total 8,000.
Large 7, small 26, N. 67; total 7,000.

Although the thymus apparently was normal in size, after the third application, the symtoms apparently had not been benefited by treatment. Radium was then used for two applications with no better results. Whether this case is one of a multiglandular syndrome, or whether the thymus is one of the syphilitic variety, or whether the antero-posterior diameter of the gland is still disproportionate to the antero-posterior diameter has not been determined. Subsequent observations have not been allowed by the parents.

CASE 9.

Age 11 1-2 months. Flabby, asthmatic breathing. History of blue spells with temper, backwards physically with mental retardment. Diagnosis: Thymic asthma with X-ray confirmation. Two applications two weeks apart, all symptoms disapeared.

CASE 10.

3 weeks old. Cold and cough with blueness of the lips and inability to breathe properly since birth. Thymic asthma diagnosis confirmed by X-ray. Four treatments, three, four, five and six weeks successively. Symptoms have all disappeared.

CASE 11.

Referred by Dr. C. Y. Seagle. 3 weeks. Blue Baby. "The older he gets, the bluer he becomes." "Two very severe spells yesterday, with apparent loss of life." Diagnosis: Thymic asthma, confirmed by X-ray. Three successive weekly applications with disappearance of symptoms.

CASE 12.

Age 4 months. Heavy breathing since birth. Marked snorting and crowing respiratory sound. Total white 7,256, small 63, large 6, neutrophiles 31. Two exposures one week apart, since then absence of symptoms. Diagnosis: Thymic asthma.

CASE 13.

3 days old. Referred by Dr. S. M. D. Cark. Peculiar breathing. Seems to choke on liquids. Pale color. Biuish lips. Diagnosis: Thymic Asthma, confirmed by X-ray exposure. Two applications. Family moved away from New Orleans and have lost trace of them.

CASE 14.

5 years old. Mentally backward. Breathes with great difficulty. Retraction of the chest both below and above sternum. General peripheral adenopathy. Enlargement of the spleen. Flabby underweight. Total white count 5,000, neutrophile 55, small 39, large 6, percussion positive. Diagnosis: Thymicolymphaticus. Parents would not submit to further treatment and patient was taken back to his domicile. X-ray confirmed diagnosis.

CASE 15.

2 years of age. Has had difficulty in breathing since birth. General adenopathy. Enlargement of spleen. Retraction of upper and lower chest on inspiration. Diagnosis: Status lymphaticus. Confirmed by X-ray. Two exposures with marked improvement.

CASE 16.

Referred by Dr. Lucius McGhee. 10 months of age. History of frequent convulsions, increasing in number and duration. Associated rickets, flabby, mentally and physically backwards. Wasserman negative Hemoglobin 55%, total white count 5,500, small 44, large 11, neutrophiles 45. Questionable diagnosis of thymic asthma, substantiated by X-ray. Parents refuse to remain in order to have treatments continued.

CASE 17.

3 weeks of age. Referred by Dr. Randolph Unsworth. Strangles with each feeding almost since birth and has had frequent peculiar fainting spells where the baby becomes "perfectly white." Diagnosis: Thymic asthma. Corroborated by X-ray showing marked enlargement to both sides of sternum. Three exposures, first two being one week apart and the last being two weeks following the second. "Since then seems like a new baby."

CASE 18.

2 days old. Feeble, crowing cry. Very pale. Appears lifeless. Diagnosis: Thymic asthma. X-ray applications 5th, 14th, 26th and 60th day respectively with a marked reduction in the size of the gland and absence of symptoms mentioned.

CASE 19.

7 months old. "Spells and convulsions." First once a week, now daily. In the way of elimination, the thymus was considered, but no positive diagnosis was made. X-ray bore out the possibility and four treatments were given with no improvement. Wasserman of father positive, mother negative, child negative. After seven months of treatment, iodides and mercurial inunctions, convulsions have decreased in every way. No conclusions, however, could be made as it would be difficult to state whether the mixed treatment or X-ray was responsible for the improvement. However, this case was apparently one involving more than the thymus gland alone.

CASE 20.

Referred by Dr. H. Gates. 1 year old. Splotchy skin, frequent urticarial eruptions, crowing sound on inspiration. Blue lips off and on. Total white count 14,500, small 34, large 5, neutrophiles 60, eosinophiles 1. Two exposures, one week apart, marked improvement. Diagnosis: Thymic asthma confirmed by X-ray.

CASE 21.

Age 1 month. Grandfather positive Wasserman, father questionably positive. Baby has been blue all over off and on since birth. Diagnosis: Thymic asthma confirmed by X-ray.

CASE 22.

11 years. Was admitted to Touro Infirmary for intestinal upset. One Sunday afternoon suddenly become very pale and died immediately. His mother, sister and self had all slight deformities of the hand and he had a rather marked general exostosis. A post mortem was held and revealed a tremendous thymus. No suspicion of thymic disturbance had been made for there had been no significant signs or symptoms of the clinical syndromes mentioned in this paper.

CASE 23.

6 months. Gets "black and blue every time she cries." "Becoming more noticeable the older she gets." Suspicion of thymic asthma corroborated by X-ray. Three weekly applications—symptoms cleared.

This series of 23 cases includes 13 males and 10 females; ages range from two days to eleven years, inclusive. Eight cases under 1 mo., five cases 1-6 mos., six cases 6-12 mos., three cases 1-5 yrs, and one case 11 1-2 yrs. Eighty-three (83) per cent under 1 year of age.

Significant Symptoms:

Cyanosis, continuous or intermittent; dyspnoea, with marked respiratory stridor, associated with cyanosis, temper spells, fainting spells, and the general objective symptoms usually associated with thymicolymphaticus such as general adenopathy, large spleen, etc.

Nineteen (19) positive and two (2) questionable thymi were diagnosed prior to X-ray substantiation.

Treatment:

(1) X-ray. (2) Radium. (3) Combination of X-ray and radium. (4) Medicinal, and (5) Surgical.

X-ray—Of this series of 23 cases, 20 received Roentgen irradiations. 1 received a combination of Roentgen irradiations and radium and 1 received radium alone, 1 did not receive any treatment whatsoever.

The Roentgen irradiations were given at various intervals ranging from two to three days up to a period of seven to fourteen days—and in a few instances, monthly. Exposures made from two to three minutes up to ten to fifteen minutes. In all of these cases improvement seemed to follow the application of the Roentgen irradiations, except in the one case previously mentioned.

As the thymus is very sensitive to X-ray, and inasmuch as X-ray exposure has proved harmless whether in normal or abnormal individuals, this seems to be the treatment of choice.

Conclusions.

1. Artificial involution of the thymus follows Roentgen irradiation.
2. X-ray therapy should be used in all cases whether mild or urgent.
3. Cases with marked symptoms should receive repeated massive doses.
4. As regeneration of the gland is to be expected, the condition should be watched very closely from time to time by an occasional X-ray.
5. Mental retardment and physical development that warrant the consideration of the thymus gland as a probable factor should receive X ray treatment even though the X-ray picture is negative.
6. As a precautionary measure, or preoperative treatment, the so-called lymphatic type of children should be

given X-ray therapy to enable them to withstand inter-current disease or anesthetic.

7. Preoperative exposure of older children whether it is suspicious of enlarged thymus or where there has been a history of enlarged thymus in the past.

8. Routine preoperative X-ray treatments of hyperthyroidism in children though most uncommon, should be resorted to in case surgical intervention is necessary ([23]Lange modified.)

9. The therapeutic tests with X-ray are always permissible ([24]Friedlander reported series of over 100 cases of which only four were unsuccessful, using the technique outlined as follows:

"A Coolidge tube, backing up a nine and one-half inch spark, was employed. The rays were filtered through 4 mm. of aluminum and a piece of thick leather. The target skin distance was approximately nine inches. The routine exposure was twenty-five milliampere-minutes. In mild cases a single dose given over the anterior surface of the chest proved sufficient. In more urgent cases fifty milliampere-minutes were administered at the first treatment, twenty-five anteriorly and twenty-five posteriorly. During the treatment the child was kept quiet by four sandbags, one placed across each arm and one across each leg. The interval between treatments was usually one week unless the urgency of the symptoms suggested more frequent applications." It has been demonstrated in rabbits that four exposures on successive days give greater degree of fibrosis than fifteen exposures over five weeks.

X-Ray.

(1) Decreases the size of thymus—with disappearance of the cough, the stridor and the asthma.
(2) In status thymicolymphaticus—the lymph nodes recede appreciably.
(3) There is stimulation of the patients' mental and physical growth.
(4) Lymphogrosis rapidly disappear.

Radium.

Inasmuch as the writer has had only two cases, one partially treated with radium, and the other treated with radium alone this does not warrant deductions. However, this case received one treatment, and three months later a second X-ray showed a marked shrinkage of the thymus.

[25]Brayton and Heublein have reported series of 34 cases of enlarged thymus treated with radium with a prompt disappearance of all symptoms. Their technique is as follows:

"100 milligrams of radium element, still in its 0.3 millimeter silver capsule, is wrapped in sufficient gauze so that when strapped to the chest by a strip of adhesive, it will lie half an inch from the skin surface. Four marks are made in the form of a rectangle over the thymic area, and the nurse is instructed to allow the package to remain two hours over each mark. This makes a total exposure of 800 milligram-hours. From the moment a diagnosis is made, the child's head should be kept in a flexed position, thus lessening the severity of the asthma and the possibility of sudden death."

In very serious cases which are diagnosed within a few days after birth, several cyanotic attacks occurring each hour, radium would be the method of choice.

Combination.

Some authorities have advocated the use of both means, namely, radium and X-ray, but as we have no sufficient deductions to warrant it would seem inadvisable at this time to encourage this method of treatment.

Medicinal.

As most of these thymic infants and children are below par and show to a certain extent a secondary anemia and lack of muscle development, various arsenic preparations administered either in the form of arsacetin or sodium cacodylate intramuscularly have had distinct effect on the blood picture as well as the improvement of the patient's general condition. Iron in various forms, particularly iron citrate hypodermatically has also been suggested with good results.

Surgical.

It is generally conceded that the surgical removal of this gland is not followed by very gratifying results, and while patients apparently improve, the possibility of infection at site of operation renders this surgical intervention extremely dangerous. Even [26]Olivier

and Veau whose success with thymectomy has been most brilliant, latterly advocate the use of the X-ray by preference.

General Conclusion.

(1) Study your patient and make your diagnosis.

(2) When in doubt give X-ray irradiations.

(3) X-ray is the method of choice—massive frequent doses are advocated.

(4) Remember your responsibility to your surgical cases.

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DISCUSSION.

Dr. Leon J. Menville (New Orleans): There are several things concerning the subject matter of Dr. Bloom's paper that are of great interest to me as a Roentgenologist. What has the Roentgenologist to use as a standard of a normal thymus? We know that in the examination of the heart by means of the X-rays, we use a standard of distance, consideration of the build, weight and age of the individual. In this manner we are able to arrive at a correct measurement of a normal heart. I hope to do some experimental work upon the normal thymus, taking in consideration the above mentioned factors. To determine positively whether a thymus gland is enlarged we must know the size of the normal. Of course a markedly enlarged thymus is easily shown with the X-ray, but the borderline cases deserve more consideration.

In the treatment of an enlarged thymus

with either the X-rays or radium, the thyroid is also receiving a certain amount of radiation—realizing that improper radiation of the thyroid gland is productive of much harm—is it not possible that too great a radiation over the thymus (especially using very intensive dosages), may ultimately produce disturbances of the metabolism of the individual? We do not know the exact physiology of the thymus gland at this time, and for this reason I believe that intense radiation should only be administered in those cases where the thymus is so enlarged that the toxicity of its secretions so manifest itself upon the patient that life becomes in danger. Small fractional doses over a long period of time, with careful watching of the patient by the physician in charge, would perhaps be of more benefit to all concerned.

There is no difference in the biological effect upon tissue using either radium or X-rays. We are utilizing in both instances the gamma rays. I prefer using radium to the X-rays in treating enlarged thymus, for the reason that radium can be applied and made to remain permanently in one position, whereas, treating a fretful baby with the X-rays, he is apt to shift around and make the treatment difficult and dangerous. With radium applied skilfully the thyroid gland will receive less radiation than with the use of the X-rays.

Examination will show that the bulk of the meal is well forward and what we see, is only a remnant of the meal in the haustration, on account of its slow progress at this point. I agree with Dr. Barrow that we can sometime make a diagnosis of diverticulitis with an injested meal, but I wish to impress the point that the method of preference, the one that is used more generally, is the barium enema examination.

Dr. Homer Dupuy (New Orleans): I wish to speak of dyspnea as a diagnostic symptom in thymic disturbances. In the absence of X-ray evidence, how can we suspect thymic enlargement? The dyspneic picture is typically expressed by the inspiratory stridor. An infant with inspiratory stridor, without marked rise of temperature, should be suspected of thymic enlargement. The only thing you might confuse with this would be congenital adenoids, or laryngeal diphtheria. We exclude laryngeal diphtheria immediately by the perfect voice present. In the presence of adenoids at birth or a few months after, the picture is very different. The child is a sniffling child. There is no inspiratory stridor. So when you eliminate laryngeal diphtheria, and the sniffling being absent, even without the aid of the X-ray to show thymic enlargement, inspiratory stridor should point strongly to the thymus.

A foreign body might be thought of, but, of course, in the infant that is rare. Again the history of the patient, the high temperature usually present with foreign body in the bronchial tract would help in differentiating.

So here is the point—with inspiratory stridor, marked dyspnea, with absence of sniffles and absence of voice disturbance, suspect thymic enlargement.

Dr. E. C. Samuel (New Orleans): I have had the pleasure of seeing a number of these cases of Dr. Bloom, and I think we can safely say that since we have been doing X-ray therapy that we have treated probably 150 cases of enlarged thymus and the allied conditions caused by it.

Dr. Menville spoke of establishing what we mean by a normal thymus. I think we have pretty permanently established that in our work at Touro, due to the service of Dr. DeBuys in radiographing the babies within twenty-four hours after they are born, and I think we have about arrived at what we can call a normal and an abnormal thymus . I do not mean to make that statement didactic.

I certainly believe that Dr. Menville is correct in trying to persuade you not to give the large dosage that has been recommended. I have always been an advocate of the fractional dosage in thymus disease, and I am sure that our results have proven this by the experience of both Dr. Bloom and Dr. DeBuys. They use an average of about 1 1-2 minims, and that is repeated at the end of ten or fifteen days, depending upon the patient's general condition. We tried at first giving five or six minims with adequate filtration, and we produced just the thing we were trying to eliminate. So by cutting down the dosage and giving it at intervals we have practically eliminated this condition.

In regard to radium versus X-ray, we have practically abandoned the use of radium, for the reason that you are able to keep your patient a much shorter time in your department, and we think the results are practically the same. We can see no difference at all. We can use radium, as Dr. Menville and Dr. Bloom have said, but it is usually in position at least six hours over the area. Whether you have them at home, or in a hospital or institute, it makes no difference, the child must stay put for at least six hours. With X-ray therapy that is not the case. You only have these children for one and a half or two minutes every ten or fifteen days.

In regard to the effect of the X-ray on the thyroid in the treatment of thymus conditions, we have practically eliminated this feature by using a small cone directly over the thyroid, anteriorly and posteriorly, and allowing the assistant to hold the legs and arms in the straight-out position, and just radiating over this region.

Dr. L. R. DeBuys (New Orleans): The glands of internal secretion liberate certain products which are called harmones. The functions of these glands may be increased, normal or diminished. There is an intimate relation between the functions of these various glands. Occasionally we see disturbances in the correlation of these different functions. These glands function differently at the various periods of life as for example, at birth, during infancy, at the period of second dentition, at puberty, and also during adolescence. We pediatricians should have some normal standards to go by before using any destructive agent which might permanently impair the internal secretion of any one of these glands.

A few years ago we began to study the shadows in the thorax of the newly born, so

as to ascertain what the normal and what the abnormal shadows are. This observation now includes nearly 200. Every baby born in the newly born service in Touro Infirmary is radiographed within twenty-four hours after birth. As many as possible of these cases are observed at six months, and we have some at one year, so as to see what is taking place in the thorax with the different types of shadows that we find. It would take too long to go into the study now, but the results as I presented them last year before the Congress of Physicians and Surgeons in Washington with regard to the shadows of the thymus were as follows:

1. There is no constant relation between the heart shadow and the shadow of the thymus.

2. The shadow of the thymus is not necessarily influenced by the position of the heart.

3. The shadow of the thymus varies in its size and position independent of the heart shadow and with no relation to the size of the infant.

4. These variations in the shadows of the heart and the thymus can exist without clinical manifestations of disease.

In our study we have shown that the thymus can be large at birth with no clinical symptoms. We have followed these cases to six months and later and have seen no symptoms develop. We have seen some cases at the different ages with enlarged thymic shadows without symptoms, just as we have seen some cases with enlarged thymic shadows with symptoms, and we have seen some cases with very small shadows, and very marked symptoms. It would seem then that we should not subject these cases to treatment except when we find clinical symptoms of disturbed function.

With regard to the treatment in our experience surgery plays no part. The only results we get are from the use of the X-ray and radium, preferably the X-ray in my experience. One word with regard to the treatment—there may be a slight reaction shown by a slight increase in the symptoms following the application of the therapeutic agent.

Dr. R. E. De La Houssaye (New Orleans): I would like to say a few words relative to the diagnosis of thymic conditions. When an enlarged thymus is suspected and an X-ray report comes back "enlarged thymus" do not rest so secure in your diagnosis. I saw over one hundred babies autopsied dying from various causes and routine X-ray pictures were made of the thymus in each case. Many pictures that showed large thymic shadows weighed only 5 to 8 grams. The lateral dimensions were present, but the majority with large thymic shadows presented no clinical symptoms.

The thymus diminishes in size during the first year, this is perfectly normal. When you are using X-ray therapy and the thymus appears smaller with cessation of the symptoms that first gave the impression of a thymic condition you are again confident of your diagnosis. I want to suggest that we study these cases very carefully eliminating such as cerebral haemorrhage, laryngeal malformations and obstructions, food allegies, etc., and not be led astray by an X-ray picture.

Dr. C. J. Bloom (New Orleans), In closing discussion: Regarding Dr. Menville's discussion concerning the relation between the thymus and the thyroid, additional information on this subject can be given. Personally the speaker believes that an over-application of radium or X-ray irradiation of the thymus might produce a disturbance of the thyroid, because we know that many children who have succumbed to thymic disease have revealed at post-mortem small parts of the thyroid gland associated with the enlarged thymus.

Frequent application of the X-ray over a short period of time versus X-ray irradiation over a long period of time, experimentally favors the former. Atrophy of thymus in rabbits subjected to daily irradiation covering a period of four or five successive days on one hand, have been much more marked than irradiation given once a week for a period of fifteen weeks. I believe that this is equally true in the treatment of children.

One word in behalf of what Dr. Menville has said—the treatments as instituted in the past, in this series of twenty-three cases, has been very successful—there being only one death and this case was not diagnosed antimortem.

Regarding Dr. Samuel's discussion, I cannot agree with him that he can make an X-ray of the chest in twenty-four to forty-eight hours after the birth of the child and determine whether or not the thymus is normal. Pathologists have not been able to determine what the normal thymus is in size, and it would seem even more difficult for the radiologist to make such a deduction. The statistics given in the body of my paper surely speak of the difference in the mean weights of thymi obtained in post-mortems. In other words we have contradicting figures, and nothing so far as actual weight is concerned.

We also have to consider the fact that a misinterpretation might be made of the shadow at the base of the heart at such a time because frequently the auricles are temporarily dilated, due to the previous foetal circulation and would require a good many days before the base of the heart has compensated for its new life.

NON-SPECIFIC URETHRITIS.*

BY W. A. REED, M.D.,
NEW ORLEANS.

Non-specific Urethritis may be defined as an inflammation of the Urethra, in part or whole, not due to the presence of the Gonococcus. Although the great majority of all cases of Urethritis are the direct result of the specific action of the toxins produced and liberated by the diplococcus of Neisser,

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there still remains a sufficiently large number of cases not resulting from this infection to justify calling them to our attention and discussion.

It is at times no easy matter to form a clear cut line of distinction between that type of case which is one of frank non-specific origin and those in whom a Urethritis would probably have never occurred were it not for the presence of more or less permanent changes wrought in the tissues of the lower genital tract by gonorrheal infection at a previous date, with a consequent lowering of resistance, permitting organisms which under ordinary conditions are harmless to become pathogenic.

True non-gonorrheal Urethritis has been divided by Pederson, Spittell and others into two types; 1, bacterial and 2, non-bacterial. Complete absence of bacteria from urethral discharges, regardless of the etiological factor, is not common, as shown in the study of fifty-eight of the cases included in this article. In only eight cases was there found to be a complete absence of organisms, and it is more than probable that a number of the apparently non-bacterial cases would have shown the presence of organisms had it been possible to continue examination of smears of the discharge. Nor is it reasonable to expect a large number of absolutely non-bacterial urethral discharges when one remembers that normal urethras harbour from fifteen to thirty different strains of bacteria in twenty percent of cases" (Irving S. Koll.)

Generally speaking, one may consider as non-bacterial those cases of Urethritis resulting from excessive masturbation or prolonged sexual excitement, the use of strong prophylactic injections, careless urethral instrumentation, irritation from the passage of urine laden with crystals of oxalates, phosphates or urates, or containing large quantities of chemical irritants such as alcohol, turpentine or the iodides.

In those cases of Urethritis classified as bacterial, one is usually able to elicit the history of a recent intercourse with a woman near to or during the menstrual period, or one suffering from a leukorrheal discharge, demonstrate the presence of intra-urethral chancres or chancroids, find a long redundant prepuce with retained secretions, or obtain a history of the recent use of an unclean urethral instrument. At other times it is found associated with infection higher up in the genital tract, acute intestinal disturbances, as well as pronounced intestinal stasis, and even during some of the acute infectious diseases, especially Typhoid Fever.

It is in the above group that one may properly add a certain number of selected cases of Urethritis in which almost every kind of organism, except the Gonococcus, can at times be found, and in whom the urethra, because of a previous specific infection, no longer possesses the necessary resistance to withstand the attacks of ever present and ordinarily harmless organisms.

These are the cases which we generally classify as Chronic Urethritis, and which are truly non-specific, inasmuch as the Gonococcus has long since departed. The persistence of the symptoms and the frequency of relapses are often very distressing to us as well as the patient, and it is only after tireless efforts that these individuals are brought to a symptomatic cure. The symptoms usually appear in these cases of non-bacterial Urethritis, following an incubation period of a few hours or days, in the form of a mucoid or mucopurulent discharge, a very little reddening of the Urethral Meatus, at times a slight burning on urination, and a hazy or faintly cloudy first glass of urine, the second glass usually remaining clear. Recovery occurs rapidly, as a rule, following the removal of the cause, the abstinence from all forms of sexual excitement, and the ingestion of large quantities of fluids, or at most, the administration of one of the various urinary sedatives. Local treatment is rarely necessary.

The symptoms observed in cases of bacterial origin may be mild, moderate, or severe. At times they are so mild as to be scarcely observed by the individual, there being only a slight semipurulent discharge, little or no burning on urination, no frequency, and showing only a slightly turbid first glass of urine. On the other hand, one not infrequently sees cases in whom either the virulence of the invading organisms

is severe or the resistance of the host is impaired, permitting an extension of the infection to the posterior urethra and bladder, and even to the prostate, vesicles and epididymes, associated with all the distress of such complications. However, it is extremely rare to observe the profuse urethral discharges, the excruciatingly painful straining, frequent urination, the marked edema of the parts, lymphangitis and even adenitis that are at times associated with a Urethritis of gonorrheal origin.

Treatment should be begun at once and should be as mild and simple as possible. First the patient must be impressed with the necessity of avoiding sexual stimulation in any form, and that proper diet, physical rest, and maintenance of active kidney and bowel functions are of extreme importance. Supplementing this by the oral administration of hexamethylenamine, one of the essential oils or at times the alkalies, is frequently all that is required to secure a rapid recovery. However, it is usually necessary to institute some form of local treatment before the desired results can be obtained. At this point permit me to lay emphasis on the value of mildness in whatever form of local treatment you prefer to use. As a rule, Permanganate of Potash, Protargol, Zinc and Silver in its various forms are among the drugs selected for use within the Urethra. They are all good when used in suitable dilutions. It is far better to err on the side of too weak solutions than on the other. There is nothing that will keep these cases from getting well so much as the use within the urethra of high powered cauterizing injections. In the treatment of Gonorrheal Urethritis, it is rarely possible to annihilate an infection once established sufficiently to produce symptoms evident to the patient with one or a few powerful injections. This rule is even more applicable to cases of non-specific bacterial Urethritis. In those cases in which the infection becomes posterior, it will often be necessary to use through and through irrigations into the bladder. Personally I prefer to stand by the time-proven drug,—permanganate of potash,—judiciously combining its use with very weak solutions of silver nitrate given anteriorly, posteriorly, or both, as the case may need. Many of the newer preparations, such as Acriflavine and Mercurochrome are also very efficacious, but in my hands they have proven no more so than the older well recognized forms of treatment which are certainly less expensive and less liable to deterioration. In the more severe cases of this type it may be necessary to clean them up, so to speak, by more or less massage of the prostate and seminal vesicles, using sounds or dilators in the urethra to stimulate absorption of soft infiltrations and the healing of infected follicles. Fortunately such changes in the urethra are not nearly so prevalent as in severe urithritis of gonorrheal origin. Permanent recovery is the rule.

Now permit me to turn to those cases of non-specific bacterial urethritis, whose existence depends upon the presence of more or less severe tissue changes brought about by a true gonorrhea at some time in the past. Having once battled with the vast and mighty army of the gonococcus, the barriers and fortifications are never just so strong again and the urethra long remains a prey to the sporadic attacks of the vanguard of the main army, the non-specific organism.

These are the cases that try our patience and tax our patients and unfortunately comprise no small percentage of our clientele. Let us consider such a case coming to us, complaining of a persistent sticking together of the lips of the urethral meatus, frequent slight discharges of mucopus, occasional burning on urination and no little mental anxiety over his condition. It is our first duty to thoroughly satisfy ourselves that there are no gonococci still present in the urethra by repeated examination of urethral smears, remembering that staphylococci which normally inhabit the urethra will under certain conditions change their staining characteristics and become gram-negative, thus serving as a source of serious confusion to one not thoroughly experienced in the identification of the gonococcus. The micrococcus catarrhalis at times invades the urethra and may necessitate the use of cultural methods to distinguish it from the gonococcus.

Next, learn as much as possible regarding the probable location of the lesion by study of the voided urine, using the two, three or five glass tests. As a routine practice, the two or three glass tests are sufficient and very reliable. By this means we can to a degree judge whether they are confined entirely to the anterior or the posterior urethra, or both, or to the prostate and seminal vesicles.

Now examine by means of the finger in the rectum the prostrate and seminal vesicles, noting their size, shape, consistency, whether sensitive to the touch, and lastly, massage them to obtain secretion for further examination. Where the voided urine is laden with pus it is always preferable to irrigate the urethra before expressing the prostatic and vesicular secretions to avoid their becoming contaminated with pus on their passage out through the urethra. This secretion should at once be centrifuged by the Johns method and any pus found present examined in stained preparation for organisms.

Next, attention should be turned to the urethra proper, and a search made for strictures of large or small calibre, follicles, and periurethral infiltrations, by means of olives, the Otis urethrometer and palpation of the urethral wall over the largest sound that the urethra will admit. Finding no strictures, palpable follicles or periurethral infiltrations present, there remains one more means of clearing up the diagnosis, namely, inspection of the interior of the urethra through the urethroscope. Not only is its use practicable in examining and treating lesions in the anterior urethra, but in the posterior urethra as well. While only a small proportion of cases necessitate the use of this instrument to establish a diagnosis and bring about a cure, there still are enough to well compensate one for the time required to become proficient in manipulating the instrument and recognizing the lesions. The principal lesions to be found in the anterior urethra are those involving the glands of Littre and lacunae of Morgagni and are mostly seen on the roof of the urethra and usually in the first two or three inches back of the fossi navicularis. Normally these structures are scarcely visible to the naxed eye, but under conditions of chronic inflammation, are readily discernable through the urethroscope, with their red-rimmed mouths pouting upwards and filled with a glazy mucopurulent secretion. It is extremely pleasing to note the results that are at times obtained by the cauterization and destruction of these foci by means of strong solutions of silver nitrate or even pure carbolic acid applied through the urethroscope. Similar and satisfactory results have been for years and still are being secured by regular urethral dilatation, either by sounds or some of the special dilators, although perhaps a trifle less rapidly. Still it is a considerable source of personal satisfaction to see the actual lesion and observe its improvement during treatment.

Before bringing this article to a conclusion, I wish to present to you the general deductions drawn from a study of 141 cases of non-specific bacterial urethritis seen and handled in private practice and in whom the gonococcus could not be demonstrated by any of the usual laboratory methods. Of these, 63 cases were studied in detail and the following figures tabulated:

1. Twenty-eight had never had a gonorrheal urethritis.
2. Thirty-five had suffered with gonorrhea an average of seven years previously.
3. The average duration of the symptoms on applying for treatment in 53 of the cases was eight weeks. Of course in some the condition had existed only a few days.
4. Ten cases admitted that they had suffered with some form of urethritis "at intervals" for a long time; one as long as 15 years.

The predisposing and etiological factors were determined as far as possible with the following conclusions:

1. Eight cases were definitely proven to be the result of strong urethral prophylactic injections.
2. Seven followed sexual excesses.
3. Three resulted from infection from secretions retained under long foreskins.
4. One was due to the presence of an intraurethral chrancroid.
5. In ten, urethral bands and strictures were demonstrated.
6. One case was associated with an acute intestinal disturbance.
7. One resulted from excessive masturbation.
8. And in the balance of the cases the predisposing factor could not be determined with any degree of certainty.

The main symptoms complained of by these cases included shreddy urine, a frequent or permanent morning drop, slight urethral discharges following the least provocation, and in some, frequency and burning of urination.

One or more urethral smears were made in all but five of the 63 cases, and in only eight were bacteria unable to be demonstrated. The balance showed B. Coli, staphylococci, pseudodiphthroids, pneumococci, and streptococci in a few or large numbers.

Pus was found present in secretion expressed from the prostate and vesicles in 47 of the cases, nine were found free of pus, and seven were not examined.

The vesicles were not palpable to the finger in 47 cases, seven seemed pathologically enlarged and nine were not examined.

In 29 cases sounds of large size were passed and no follicles or periurethral infiltrations could be palpated.

Six cases were examined through the urethroscope and pathological changes in the glandular structures of the urethra demonstrated. It is very probable that similar changes would have been found in more of the cases had they been subjected to urethroscopy.

Treatment of these cases extended over periods from two days to nine months. The average time being one month.

The results of treatment were 35 cured, 23 greatly improved at the last date of observation, and 5 remaining unchanged.

The remaining 78 of the 141 cases were composed of individuals also suffering from non-specific urethritis, but in whom gonorrheal urethritis had occurred at a more recent date, and were therefore eliminated from the other group.

In conclusion, permit me to admit that there are a certain small number of chronic urethrites that seem to be absolutely resistant to all forms of treatment. Nevertheless, by careful, patient attention and the use of every available means at our command we are able to bring joy to many an individual who has long despaired of ever being cured.

DISCUSSION.

Dr. H. W. E. Walther (New Orleans): There are two points I would like to add to Dr. Reed's valuable contribution. The first relates to diagnosis. We cannot emphasize too strongly the necessity, the imperative necessity, of employing the Gram stain in all urethral discharges, to the contrary notwithstanding the teaching of some men in our own community that by a simple methylene blue stain or any single stain employed they can differentiate the gonococcus from other organisms. This has been impressed upon me very forcibly in our clinic work. Of course the Gram stain is not absolutely infallible. But we cannot employ a cultural method in all cases. We should stick to the Gram stain and not try to replace it by some short-cut method that is not accurate in its findings. The Gram stain is not complicated, any man can do it in two or three minutes, and it gives you information that will be very enlightening when you think you are dealing with a Neisserian urethritis and you find the opposite to be true.

The other point relates to equipment. It is certainly surprising to see cases that have been to some physicians and find the kind of syringe they are using. In this modern day it is inexcusable to use the old black rubber piston type of syringe. Your patient does more damage with this type of syringe than he does good. The piston either works so loosely that the solution backfires through it and leaks out, or it works so tightly that it will not start at the beginning and when it does start nothing stops it. The trauma produced is worse than no treatment at all. The glass barrel of Becton, Dickinson & Co., with a rubber bulb attached, of two-dram capacity, is the only satisfactory syringe to use. It seems elementary to present this point, but I consider it one of the most important in the handling of cases by self-treatment (something I do not approve of, but when it must be done the patient should be given the best type of syringe for the purpose). This syringe costs no more than any other, and is infinitely more satisfactory. It has been on the market for ten years, and we should see that the druggists abandon the other kind.

About eight years ago, in the Journal of the American Medical Association, I described a new metal urethral clamp. We know that meditation to the urethra should be prolonged rather than simply to put the fluid in and allow it to run out immediately; but the patient's fingers get cramped in trying to hold the meatus. I therefore devised a clamp with serrated blades which prevent it slipping and obviates one point that is very objectionable. This is put on the lips of the meatus, and with the patient lying in bed or on a treatment table this clamp can be applied at the tip of the meatus and the solution can be held in for ten or fifteen minutes.

My experience with non-specific urethritis has not been as large as that of Dr. Reed. It certainly brings home the fact that we cannot sit at our desks and simply turn to the patient and say "you have gonorrhoea" without going further.

Dr. M. H. Foster (Alexandria): I had considered the Gram stain was sufficiently established as the means of diagnosis of the gonococcus. Always looking for the simplest thing, I have tried to make diagnosis by other stains, but I consider the Gram stain is the one we should employ.

The matter of the right kind of syringe in treating anterior urethritis I consider of much importance, as Dr. Walther has said. When I came out of the army I began to write prescriptions when injections were indicated, and I asked the patient to return both the drug and the syringe to me after the prescription had been filled, and in every instance some other type of syringe had been given him. When I took the prescription back to the druggist and accused him of substituting something else, I found that the druggists were not keeping pace with the improvements in this line, and were not equipped with these syringes such as Dr. Walther has described; but now they have them.

In regard to the cause of non-specific urethritis, Kidd of London has mentioned the type arising from focal infection, and when he makes a statement it is always backed up by case records and laboratory findings. There is also the type mentioned by Dr. Reed, from bacteria indwelling in the methral cavity. And we cannot overlook the fact that there are types of non-specific urethritis which are produced by intra-meatal infiltration. In these cases always satisfy yourself that there is not an intra-meatal chancre. The important class is that produced as the result of induration along the urethral canal following gonococcus infection. A very important type will be found resulting from stricture of the canal.

Recently a man came to my office stating that he had been treated for two years and in two months had received twenty shots of vaccine. That can only be excused by the fact that the man did not know how to properly treat urethritis. If he had been equipped he would have found the stricture of the posterior urethra. But he was trying to treat this condition in an inadequate way.

Dr. F. M. Johns (New Orleans): I am glad Dr. Walther is so enthusiastic about the Gram stain. I believe the Gram stain may be designated as the most difficult stain to make correctly. When you remember that most of the mistakes with Gram stain result in a diagnosis of gonorrhoea, you can readily see why so many cases are diagnosed as gonorrhoea. Since the advent of American dyes on the market we instituted a special study of the Gram stain and have completely revised most of our formulas, and those who are interested I will be glad to give the results of our experiments. Suffice it to say that you do have to make a considerable alteration in your formula.

Another mistake we have found very prevalent is in the Gram iodine solution. Unless a man is making Gram stains every day—if you make a Gram stain only every three or four days or one a week you are not checking up all the time and it is easy to let the bottle stand on the shelf and the iodine escape. I believe that this is the reason Dr. Reed states that sometimes the staphylococcus shows Gram negative. A good Gram stain with plenty of free iodine will be a rich brown color.

Dr. Paul J. Gelpi (New Orleans): The instructive paper of Dr. Reed's ought to impress upon us certain points that I think should be stressed. First of all, the frequency of non-specific urethritis imposes the necessity of a clear-cut differential diagnosis. The next thing is the importance of curing these cases. We have here a true inflammation, and if we do not get them well and allow them to become chronic, we have an infiltration of round cells and formation of fibrous tissue, which eventually means stricture.

Whereas simple urethral infections are not as far reaching as Neisserian infection, the above considerations make us realize that serious results may ensue unless they are properly treated and cured.

Dr. Paul Michinard (New Orleans): I do not want to give you any means of treatment —I want to put a bug in your ear to help you save thousands of homes. I have seen, in an experience of thirty years, a number of instances where I had to go in and play the good priest in case of non-specific urethritis in the female. Quite recently a man came to me, a very jealous sort of fellow, and said, "you are treating my wife." "Yes." "What is the matter with her?" I said, 'she has a cystitis and I believe a urethritis." He said, "will you tell me the cause of it?" And I replied, "I will." It required eight days of investigation for me to find the cause of your wife's trouble, and she will get well without any medicine, because my medicines have failed to cure her." I had sent the urine around to Dr. Gomila, who found no gonococci but staphylococci, but on looking around for the cause of the staphylococci I found some trouble with the teeth. Dr. Wahl examined her teeth, and found five points of infection. We had these teeth extracted, the gums treated, and the patient got well in seven days without any specific treatment.

I have seen a number of cases of non-gonorrhoeal urethritis in the female. I have also seen cases of the mild form of infection in the male, contracted from the female, that was entirely innocent on the part of the female. Dr. Chassaignac referred a case of that kind to me where the urethral discharge together with staphylococci and streptococci got into the male urethra and caused non-gonorrhoeal urethritis. I mention that to you so that if you do have a married male with urethritis, or you do find a female with urethritis, please do not be in a hurry to attribute the cause to the gonococcus. The same is true with that infernal idea that every case of salpingitis is due to gonorrhoea. Many a home has been destroyed by that idiotic statement made years ago. I have recently operated on four cases where the micro-organism was the bacillus coli.

X-RAY EXAMINATION OF THE COLON BY MEANS OF THE BARIUM ENEMA.*

By Leon J. Menville, M.D.,
New Orleans.

The X-ray plays a very important part in the examination of the colon, and a gastro-intestinal examination can hardly be considered complete without such an examination.

It is not the intention of the writer to render a paper on technique and roentgen interpretation, but rather an attempt to show the value of the barium enema in the diagnosis of the colon.

Dr. W. J. Mayo, in the April, 1923, number of the *Journal of Surgery, Gynecology and Obstetrics, says:* "Among all the additions to diagnostic resources that have been made in this generation, the roentgenograph is of the first importance. The sense of sight in this field has brought order out of confusion and separated facts from fancies." The roentgenograph is especially indicated in the examination of the colon. The fact that we are able to visualize the colon in its entirety by means of the barium enema, makes this examination very valuable; in addition to the sense of sight which is of great importance, we also utilize the sense of touch to a decided advantage.

In the best clinics of this country the barium enema examination of the colon is a routine for nearly all abdominal pains; at one of the great clinics an average of over 15 colon examinations is made with the X-ray each day, and I have seen at this clinic many hundred such examinations.

The colon should be entirely emptied for a satisfactory examination, and the patient is best prepared by taking 2 ounces of castor oil the night previous to the examination, abstaining from the evening meal, and the following morning, several enemas of clear water is given until the water returns clear.

The enema with which the examination is made consists of 8 ounces of barium sulphate, 16 ounces of mucilage of acacia and adding 2 or 3 cans of unsweetened, evaporated milk so as to make 50 to 60 fluid ounces.

The normal colon will ordinarily hold from 40 to 50 ounces of fluid enema, depending upon its length and its muscular tone; it can easily be made to fill while the patient is upon his back, and it is not necessary to use the awkward and embarrasing knee chest position.

It is indeed interesting to observe the entrance of the enema into the sigmoid and on through the entire colon, and in many instances beyond the ileo-caecal valve into the ileum, pushing it way forward distending the lumen of the colon and bringing into prominence the entire colon; the time required to fill the colon with the enema is from 3 to 10 minutes.

The fluoroscopic examination is of the first importance in this examination, but plates should also be taken. It is with the fluoroscope that we are able to watch the progress of the enema through the colon, observing any abnormalities, palpating for tumor with the examiner's hand at the site of pathology. By palpation we are able to separate the hepatic flexure and by shifting the patient from side to side the splenic flexure. We can also demonstrate the mobility of the caecum, ascending, transverse, and descending colon, and sometime the sigmoid, all the while examining the patient with the fluoroscope.

The normal colon differs markedly in the radiologic picture and it is of importance that we recognize a normal colon, otherwise the abnormal or pathological would be troublesome to recognize. Remembering that a normal colon is closely fixed at the hepatic, splenic flexure and at the rectum, the colon between these points is loose and assumes various positions, in some instances the transverse colon will be well down into the pelvis and in another case higher up, yet both are normal colons. In abnormal colons we sometimes find ptosis of parts of the colon, the hepatic flexure occasionally will be found low, but rarely does the splenic flexure change its position. Any part of the colon may be displaced by extrinsic tumors, such as those emanating from the kidneys, liver, pancreas, spleen, uterus and adnexa by bands of adhesions, by pregnancy and by psoas abscess. We also find in abnormal colons, an increase in length, the redundancy being usually

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most marked in the sigmoid and transverse portions. This increase in length is a relatively common finding in constipation, but may also be found in cases which function normally.

The barium enema is being used to advantage in helping diagnose the following conditions:

1. Cancer of the colon.
2. Deverticulitis of the colon.
3. Tuberculous colitis.
4. Chronic ulcerative colitis.
5. Polyposis of the colon.
6. Transposition.
7. Hirschprung's disease.
8. Fistulae of colon.

Cancer of the Colon.

Cancer of the colon is diagnosed by the X-ray enema in a very large percentage of cases. The filling defects and a corresponding palpable mass are of great value in making the diagnosis. We should not forget that there are certain conditions, namely benign tumors, polypi, syphilis, actinomycosis and cicatrical stricture from ulcer, which will produce filling defects, or a palpable mass. These lesions occur infrequently, and for this reason do not offer any serious difficulties. In such cases, however, it would be necessary to have the clinical picture added to the roentgen examination.

Diverticulitis of the Colon.

The roentgen signs of diverticulitis of the colon are in the majority of instances characteristic and the barium enema is of great importance in the diagnosis of this condition. As nearly all the diverticulae of the colon are false ones, it may happen that we could overlook a very small one, but on the whole the percentage of correct diagnosis is far greater than by any other method of examination.

Tuberculosis of the Colon.

The distal segments of the colon are seldom involved by tuberculosis. The most frequent site of the colon to be involved is the caecum and ascending colon. Our attention, therefore, is directed in particular to these two segments of the colon in our examination for tuberculosis of the colon.

Carman says, "That the enema is preferable in making this examination, since it demonstrates small irregularity of contour by actually outlining the bowel mass, whereas the ingested meal is so unevenly distributed through the nomal colon that its irregularity cannot be distinguished from that due to disease. This is especially true in cases with little involvement." I, personally, believe that whenever possible both methods should be used, preference given to the enema. The roentgen sign of importance in tuberculosis of the colon is the filling defects and the absence of barium at the site of the disease, caused by alterations in the wall of the bowel from the disease and also spastic condition accompanying this disease. The above roentgen signs are not entirely characteristic of tuberculosis of the colon; carcinoma and ulcerative colitis may produce similar conditions. However, a lesion of the caecum or ascending colon, with the absence of barium shadow is strongly suggestive of tuberculosis and tuberculosis should be sought for in other parts of the body.

Chronic Ulcerative Colitis.

The barium enema X-ray examination in this disease shows a rapid filling of the bowel with the enema, with smooth walls, free from haustration, and narrowed lumen. Any portion of the colon may be affected. The X-ray examination not only helps in the diagnosis, but shows the extent and location of the disease.

Obstruction of the Colon.

We are so familiar with the value of the X-ray in this condition, that it is not necessary to mention its many advantages.

Hirschprung's Disease (Mega Colon.)

A congenital idiopathic dilatation of the colon. Segmental dilatation is more frequent than entire dilatation of the colon, especially the sigmoid (mega sigmoid). The diagnosis of this disease is clearly brought out by means of the barium enema, and there should be but little difficulty in a correct interpretation.

Fistulae.

The barium enema is of considerable help in diagnosing fistula, locating the exact part of the bowel in which they originate, as well as the extent of their ramification.

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DISCUSSION.

Dr. A. L. Levin (New Orleans): I should like to ask Dr. Menville whether the so-called enterolith can easily be demonstrated by the X-ray. In other words, when a barium meal is given for a gastro-intestinal picture, can the X-ray man easily recognize intestinal concretions? In this connection I should like to relate the history of a case which will be of great interest to all of us, especially to the gastroenterologist:

I was called to see a case several months ago giving the following history. A woman above middle age, able to pursue her regular occupation of teaching in the public schools up to about December, 1922, at which time she began to lose her appetite and to suffer from constipation, nausea and then persistent vomiting set in with abdominal cramps off and on. She began to lose in weight rapidly and the color of the conjunctiva and the skin became distinctly icteroid. Involvement of the nervous system was manifested by a very marked general depression. Physical examination of the abdomen presented the only interesting feature; that is, a marked abdominal tympany over the left and lower abdomen with a flat sound over the right upper abdomen. I introduced the stomach tube and obtained over a half gallon of dark green stagnant material of a very foul odor. I put her on full diet for another 24 hours with the idea of determining whether there would again be a marked duodenal regurgitation. The following day I introduced the tube and found the same quantity of fluid with a heavy residue. The color of the fluid obtained was not as dark green as the first, but rather a light yellow. The examination revealed that it was duodenal contents.

I diagnosed the case as one of obstruction at the duodeno-jejunal junction, and advised an X-ray to confirm the condition. The X-ray showed a giant duodenum. We did not look any further, and were satisfied that our diagnosis of doudeno-jejunal obstruction was correct.

On strength of the above findings I advised operation. The surgeon agreed with my opinion and also suggested surgical interference for relief of the above condition.

At the operating table, to our surprise, a very unusual condition was found. There was absolutely no obstruction at the duodeno, jejunal junction. The duodenum was found markedly dilated. The intestines lower down were normal, but the entire lower bowel from one end to the other was filled with hard fecal concretions. The surgeon could not do anything. The abdomen was closed, and shortly after the operation the patient began to sink very rapidly, and in spite of our efforts, died two or three hours after the operation.

Statistics, according to the surgeon's statement, demonstrate that the prognosis in such cases, from a surgical standpoint, is very bad. The majority of them die from toxic absorption shortly after the operation.

Personally I feel that had the X-ray man gone a little further and if it had been possible to tell me that he had found concretions or enteroliths further down in the tract, I probably would have tried first in some way to get rid of these stones in the intestines and have watched the results, and the outcome would probably not have been as sad as it was with surgical intervention.

With regard to Colitis and chronic ulceration of the large bowel, this is very interesting too. Logan, several years ago, wrote an excellent paper published in one of the volumes of Mayo Clinic, where he demonstrated 117 cases of chronic colitis. They were all proven by X-ray. These cases have typical X-ray features, and that is, that the saculations are lost, and the large bowel presents a perfectly smooth lumen, narrow, sometimes presenting only the width of a finger. The treatment of such cases is very tedious, and in a large percentage is unsatisfactory. I have in mind a case which I treated by transduodenal lavage after other various treatments had been pursued for several years without results. The results with transduodenal lavage in this case were excellent and the patient is in perfect health today.

The X-ray of the large bowel was of the same type that Dr. Menville has shown us here today.

Dr. Lester J. Williams (Baton Rouge): Dr. Menville brought out one point that I think is of great importance to the general practitioner, and that is the effect of the posture upon the enema. He admits that there is no necessity for the knee-chest position in giving the enema, and there is really no necessity for a high enema of water to completely fill the colon. The fluid flows easily through an ordinary syringe without the necessity of any special apparatus.

I was interested in the very excellent slides, particularly those of chronic ulcerative colitis.

Dr. S. C. Barrow (Shreveport): The doctor's slides have covered practically every phase of the subject that we are usually called upon to investigate with the X-ray, but I want to touch upon one or two points that I think are of importance to the general practitioner, and that is multiple diverticulitis—not the gross type, but the diverticulitis the result of chronic inflammation of the colon. I want to stress the point that a simple opaque enema will frequently fail to show this condition and we must rely upon the opaque meal by mouth after 72 hours. The meal must be passed by mouth, and then give it time to pack into the small excavations of the wall of the gut, in order that it may be demonstrated.

Dr. L. J. Menville (closing): The question of Dr. Levin as to the X-rays being able to demonstrate fecaliths. We know that the shadow cast by the substance with the X-rays is dependent upon the cube of the atomic

number multiplied by its density. The X-rays will demonstrate a fecalith, depending upon its character and formation. Sometime we must differentiate between fecalith and renal calculus and the best way to make the differentiation is by complete purgation. And for the reason that fecaliths cast shadows, I insist upon complete purgation for a barium enema when the X-rays is used.

I thank Dr. Williams for his discussion and also Dr. Barrow. Barium enema for the demonstration of diverticulitis of the colon is always used at the Mayo Clinic, for the reason that portions of the ingested meal may remain in the haustration of the colon, after the meal has passed on, and may resemble a diverticulum. Movements of an ingested meal in the colon is similar to water in a moving stream, it is more rapid in the center and less towards the sides. It is for this reason that a 24-hour ingested meal of the colon is confusing when examining for diverticulitis, the sides of the colon may show some remnant of the meal, but a careful barium enema examination will make the diagnosis clear.

PLASTIC OPERATIONS ON THE FEMALE PERINEUM.*

By Wm. D. Phillips, M.D.,
New Orleans.

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Plastic operations on the female perineum very often fail, and the results expected are not obtained. The patient fails to obtain relief from the symptoms from which she suffered, and in some instances is made worse as a result of the operation, also in other cases, as a result of failure to properly repair a recent laceration, the patient at some time sooner or later is forced to suffer serious discomforts, or the annoyance of another, and probably more serious operation. There must be a reason for this, and it is the purpose of this paper to call attention to a few of the practical points so necessary for the successful repair of perineal lacerations or relaxation. Failure to appreciate the anatomical structures as they exist, excision of an excessive amount of mucous membrane and distortion of the normal muscular and fascial supports will all tend to produce failures referred to above. In an attempted repair of the relaxed vaginal outlet, we can not expect an exact anatomical restoration, but physiologically the function should be restored.

For convenience of description, we will classify the lacerations as follows:

1. Superficial laceration.
2. Deep lacerations—median and lateral—extending if lateral into one or both sulci.
3. Lacerations of the recto-vaginal septum involving the sphincter and extending a variable distance up the septum, most often spoken of as complete laceration.

The operations for repair of these conditions being referred to as:

1—Primary or immediate.

2—Secondary.

The immediate repair being a repair done any time from immediately after delivery extending up to a period of 72 hours after delivery. The secondary repair being a repair done any time after involution has taken place, or not before six or eight weeks after delivery.

I believe all primary lacerations should be repaired immediately after delivery, care being taken to approximate lacerations of the anterior wall as well as the posterior wall lacerations. The sutures in the first group or superficial lacerations being placed while waiting for the placenta to become detached. In the more extensive or deep lacerations and in all cases of complete lacerations, better results will be obtained by waiting twelve to eighteen hours after delivery, the repair being made under a general anaesthetic, with the patient resting on some form of table, as the more extensive lacerations cannot be repaired satisfactorily with the patient sinking down in the hollow of a bed, or without the aid of an anaesthetic. The main reason for waiting several hours in these cases is to allow the primary odema to subside.

It has been my experience that the primary repairs have given me the same percentage of good results as the secondary repairs.

As to the Type of Operation.

In the recent lacerations it is only a question of approximating the torn edges of vaginal structures, being careful to expose the entire laceration so that no part of it will be overlooked; also to eliminate all dead spaces, number three chromic cat gut being used as suture material.

In the recent complete lacerations or lacerations of the recto-vaginal septum

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involving both the sphincter and Rectal wall, I believe the Emmet method of closure is the most satisfactory, closing the tear in the rectal wall first by means of silk or linen sutures, this line of sutures being reinforced by a second line of Lembert cat gut sutures, and the torn edges of the muscles being approximated above this with cat gut sutures.

If the repair was not attempted during the seventy-two hour period after delivery, or failure of the primary operation occurred, it would then be necessary to do the secondary repair.

The symptoms presented in these cases vary from almost negative symptoms to very pronounced ones, depending upon the character and type of relaxation. If a complete laceration exists, the loss of control of the rectal contents, or incontinence is the most prominent symptom, whereas in the incomplete cases bearing down pains in the lower abdomen, pains in back, bladder disturbances or an associated partial or complete prolapse of uterus may be the cause of the patient seeking relief.

The extent of the relaxation existing, and the symptoms presented should assist as to the treatment to be instituted. If the relaxation is at all extensive, it should be repaired at once, as in addition to affording relief of the usual symptoms, a prolapse of uterus may be prevented by prompt and early repair. In the incomplete forms of laceration, particularly the lateral ones, retro-displacements and downward displacements of uterus, are more common, because of the resulting injury to the lifting portion of the levator ani muscle.

As to the type of operation for the secondary repair of the relaxed or lacerated perineum, I feel the type of laceration should decide this. In the incomplete lacerations, or relaxations, the principal of the operation, or perineorrhaphy is the same. The method of disposing of the excess of mucous membrane flap being the principal difference, as exposure of the muscular structures, and shortening the levator loop are the cardinal points and differ very little in the various types of perinerrhaphy. The main difference in all cases of perineorrhaphy being the method of disposing of the excess of mucous membrane and closure of wound.

In cases of wide separation of the levator ani muscle, I prefer to use the Emmet method of denudation, as I believe a more satisfactory closure is accomplished. In the other type of cases, the ordinary flap splitting method being used, and the excess of mucous membrane being removed after the Hegar method of denudation. The muscles being sutured with a number two or three chromic cat gut, care being taken to pick up on either side a sufficient amount of levator ani muscle, bringing the two sides together in the mid line of the perineum, thereby shortening the levator ani loop, and making the pull of the muscle between the rectum and vagina, instead of the coccyx as it was originally.

In the complete lacerations, in addition to the above, the tear in the rectal wall (if it exists) must be disposed of, and the torn edges of the sphincter ani muscle exposed and sutured together. In the secondary cases, I think it is much easier to separate the rectum from the vaginal musculo fascial plane, just below the vaginal mucosa, pulling the upper angle of the tear in the rectal wall down, and suturing the sphincter muscle above on healthy rectal tissue. This does away with the sutures in the rectal wall, which are objectionable, because of fear of infection.

In laceration of the anterior wall, or cystocele, the question of closure is not so easy, as in the post wall lacerations, because of the absence of muscular structures. The main support of the bladder is fascia, which is carried down with the bladder as the cystocele develops, and in order to restore this, the usual longitudinal incision is made on the anterior vaginal wall, from a point just below the urethra, to a point just above the cervix, the mucous membrane flap being dissected back on either side, and the bladder exposed. The bladder is then freed from its attachment just above the cervix and dissected up in the direction of the pubes, where it normally belongs. The fascia plane being then reconstructed by means of continuous sutures of cat gut, the excess of mucous membrane being removed, care being taken not to remove too much, as

by doing this the anterior wall is shortened to such a degree as to pull the cervix downward, and possibly causing some distortion of the urethra.

In the very large cystoceles in elderly women without prolapse of uterus the interposition or transposition operation will probably give better results than this method, and should preferably be used.

As to the preparatory treatment of these cases there is very little to be said, the usual pre-operative instruction being all that is necessary, but it is different with the post-operative treatment. There is hardly any type of surgical cases that the careful attention of the nurse is so necessary as it is in plastic perineal cases, and the success of the operation often depends upon the post-operative care.

In the incomplete lacerations no great care need be taken regarding the time following the operation, during which the patient may be permitted to have a bowel movement, but in the complete lacerations, both after the recent and secondary repair, great care should be taken to keep the patient from having a bowel movement for a period of seven to nine days after the operation. This may easily be accomplished by diet, which should consist mostly of albumin water, and strained broth, no solid food being given, and the daily administration of opium pills, one every six or eight hours, or paregoric, drams one every six or eight hours for three or four days. On the morning of the seventh or eighth day, the patient is given a laxative, and an oil or glycerine enema, through a small catheter, when there is a desire for a bowel movement. This enables the patient to have a soft stool without injury to the suture line.

In all plastic cases the patient is encouraged to void, and after voiding is irrigated with some antiseptic solution, the perineum being dried with sterile gauze, and a dusting powder, preferably, sterate of zinc applied, and a sterile pad kept constantly against the perineum.

Conclusions:

1. All lacerations should be repaired if possible during the first seventy-two hours after delivery.
2. Marked relaxations of the vaginal outlet in young woman should be operated upon as early as possible, as by this means, the more serious conditions such as uterine displacements may be prevented.
3. The dry method of treating perineal wounds will give better results than the moist method, or use of douches.
4. Proper knowledge of the anatomical structures as they exist is necessary for successful repair of perineal lacerations, or relaxation.

DISCUSSION.

Dr. Walter Levy, (New Orleans): I cannot agree with Doctor Phillips in waiting eighteen hours to suture primary tears. He says the oedema will be subsiding by them. It seems to me the oedema is just well developed by then. The oedema does not develop right away, in my experience, and I think the main trouble is that when you suture right away you draw the suture too tight and do not allow for the secondary swelling; then when the swelling does occur the sutures cut through and your work is for nothing.

There is one thing in tying these sutures that we practice. Doctor Phillips says it is easy to put through the sutures and bring them together, but I think we obtain better results by doing this. (Illustrates on blackboard.)

I am glad the Doctor brought out the point of rectal repairs with the intra-rectal silk sutures. If there is anything that is a pernicious practice it is the through-and-through suture; they will break down every time

I cannot agree on operating on the young woman in the child-bearing period. I would rather take my chances of descensus. If you operate they become pregnant agin, they break again, and you have re-created them into primipara as far as the perineum is concerned, and you have the same difficulty.

At Touro we examine each case for retroversion, and if we find them we treat them, and after a few months we find the displacement has disappeared.

Dr. E. H. Walet, (New Orleans): In regard to primary lacerations I believe we ought to sew all we can at once if we are prepared to do so, and in private practice we ought to be prepared to do this. In institutional practice, however, we have everything available, and we can almost foresee the cases that will give us trouble, and I think these cases ought not to be delayed unless there is satisfactory contra-indication. That contra-indication would be postpartum hemorrhage, and you can deal with it. If you are forced to pack the uterus: have a good light, you have all the material at hand, so you can put in one or two lap-six sponges, and if you have to sew the cervix, do it. But I believe what makes perineal repair more successful is the proper diagnosis of the nature of the

tear and in order to make that diagnosis clear we must have the vaginal canal properly packed. Then the essential thing when you have made your diagnosis is to suture the perineal tear in layers.

Dr. Paul Michinard (New Orleans): There is a psychologically interesting feature in all of these discussions. I have listened to many of these papers and discussions from men who have a big hospital practice, but we cannot associate our domicilary practice with hospital practice. Take this thing of laceration of the perineum. We are told here to do the repair the moment we find the tear. That may do in a hospital. These women come in before delivery, and that is the time we see them, and the tear is not repaired after prolonged pressure of the fetal head against the perineal structures—the tear occurs quickly, either from instrumentation or otherwise. But let us take another view. Here you are called in the night to the country, as I have been called when I practiced down town, to see a woman with the fetal head has been traumatizing that tissue. hour and a half or two hours. That fetal Then you are called upon to make a hurried delivery and apply the forceps to the dead baby, owing to meningeal hemorrhage. These perineal tissues are traumatized and we have a tear. Would it be wise to suture at that time?

In our judgment it would not. We know that in the course of forty-eight hours some part of that traumatized tissue will slough off, and with the sutures in that mass of slough you will in all probability cause subsequent septicemia. Why not wait a few days and see what will happen. A tear when the perineum is at rest is easy to sew up, but where pressure has preceded for a long time the occurrence of this tear, we should not sew up the tear immediately.

Next, supposing we had in that tear a laceration of the sphincter muscle. We want, if possible, to prevent infection by keeping away from the wounded surface fecal matter. We know the sphincter is composed of muscle fibers. It is a strong resisting material, not like the connective tissue behind the mucous membrane of your vaginal wall. We ought to sew that tear at once and bring these muscles together with a silk-worm gut. I have done that repeatedly with beautiful results.

Next, about the suture material. I have used cat gut in quite a number of instances, and the post-operative appearance is beautiful, but I have always felt afraid, and when I had bad results I blamed it on the cat gut. But what I do is this: I have gone back to the silk-worm gut. Bring together the levator ani muscle with No. 2 cat gut, sometimes doubling it, and then the rest of the operation is done with silk-worm gut.

As to the technique of sewing the perineum, there are 57 varieties. Every operator has his choice, and every operator has modified somebody's operation. You can do your own, provided you bring together the levator ani muscles properly.

Dr. W. D. Phillips (closing): Answering Dr. Levy, would say that time did not permit me to go into detail concerning this subject, and I feel sure from his remarks that he did not interpret the real meaning of my remarks. I do believe that there is less oedema twelve hours after delivery than immediately after delivery, but there are other reasons for deferring the primary repair in the more extentive type of perineal laceration. The extensive tears are usually associated with long tedious occipito posterior positions, the tissues are stretched considerably and there is considerable oedema. Again, we are usually pretty well worn out from handling this type of case, and the patient is usually exhauted, also, the hemorrhage does not bother you as much several hours after delivery, as it does immediately after delivery, and I think you get better results to place a sterile pad over the vulva, and go back after twelve or eighteen hours when you are fresh, get somebody to give an anaesthetic and go about the repair in the proper way. I am sure I have had better results in the extensive lacerations by following this plan.

Dr. Levy stated that he did not agree with me in regard to repairing lacerations in young women. I, of course, would not advise perineorraphy for every simple laceration, I referred to those cases of marked relaxation, and in cases where uterine displacement has already taken place. My idea in operating on these cases is to prevent a more extensive type of displacement, with a consequent more extensive operation.

Regarding the point that he brings up, "they are liable to lacerate again," I do not believe that the case is more liable to lacerate after perineorraphy, than before, but if they do lacerate, we can repair them immediately afterwards. I cannot see the wisdom of permitting a young woman to suffer the annoyance of uterine displacement, for fear if the laceration is repaired, she may have another laceration at a subsequent delivery.

In answer to Dr. Michinard, regarding cases of infection. I, of course, would not attempt a closure in these cases. I referred to the usual clean cases.

PRACTICAL ORAL HYGIENE FROM THE DENTISTS' STANDPOINT.*

BY C. S. TULLER, D.D.S.,
NEW ORLEANS.

In bringing this subject before the Orleans Parish Medical Society it is with the hope of supplying an easy means whereby you may help us render this much desired aid to both oral and bodily health. The mouth is the gateway to life and all too often the gateway to death as well. A clean mouth in the body of every person would result in a tremendous reduction in both dental and bodily disease.

The tremendous loss of teeth now oc-

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curring by extraction for the removal of focal infection, which is raising such a storm of protest on the part of the ultra conservatives (and not without some justification) is to be avoided in the future only by teaching the rising generation the value of *live* teeth and mouth hygiene. It might also be added that more scientific and careful practice on the part of the dental profession would also greatly aid in approaching this ideal.

Your special attention is directed to the expectant mother who is as greatly in need of oral prophylaxis treatment at the hands of the dentist as she is of your care and attention during pregnancy. I would recommend regular monthly inspection and thorough cleaning by the dentist until the ordeal is over and the physician should see that she is porperly instructed in the home care of her mouth.

No one is in greater need of a thoro knowledge of oral hygiene than the trained nurse, but I have my doubts as to the efficiency of her training judging by the care she has given her own mouth prior to becoming my patient.

The illustrations to be thrown on the screen were gotten up for public school work and are the result of the united efforts of about a dozen of the most capable and learned dentists in the United States and represent the fruit of about twenty years experience in training patients and watching results. The results are clean, healthy mouths with pink firm gums, the minimum of caries and an absence of fetid breath and coated tongue.

The rest of the subject will be handled by the aid of lantern slide illustrations under the following headings: What to use; How to use it; When to use it.

DISCUSSION

Dr. W. A. Lurie: We should be grateful to Dr. Tuller for his complete and interesting paper on the care of the teeth. The advice voiced by Dr. Tuller seems to be that which is becoming rather general in the dental profession. The idea of prevention. Preventive dentistry is the practice of to-day and the goal of to-morrow in that profession. Already much has been done by dentists in preventive dentistry and in cleaning up of many systemic conditions resulting from infections about the mouth. We all know of many cases of such nature, but the physician would do well to pattern after the advice given by Dr. Tuller in teaching the patients the value of a clean and healthy mouth. This is all the more vitally true when we remember that foods and all means of sustenance are normally delivered for digestion through the mouth. As all foods receive their preparation in the mouth by mastication, there should be good, healthy, clean teeth to chew with. There is hardly any need to make mention of infections which can result in neighboring tissues, by superficial extention from the mouth, for such cases are seen by the physician very often. Many of these cases can be saved future surgery about the throat and nose, if, as Dr. Tuller pointed out, the deformities and irregularities about the mouth and teeth be corrected. I enter my plea with Dr. Tuller's for preventive medicine and dentistry.

Dr. Homer Dupuy: It has been emphasized that the mouth is the flora bed of microbes. This being the case is it not remarkable, nay Providential, how we get away with surgery about the throat and mouth without more serious secondary infections. Certainly if we remove foci of infection about the teeth and adjacent tissues we should minimize such a constantly present danger. Preoperative care of the teeth therefore is not an unimportant preparation, and I am asking Dr. Tuller to touch on this very question in closing.

Dr. G. H. Upton: The writer deserves to be congratulated upon his interesting and instructive paper, also the Society for bringing up before the Membership papers of this type and character.

In arriving at the etiological factors of a diseased condition, we should take advantage of all the adjuncts at our command, and certainly not the least of these is the dentist.

When our Laboratory and other reports come back negative as regards to any pathological change we should avail ourselves of our good friend and co-worker the Dentist to see if he can find out any diseased condition of the teeth, and oftentimes, when he treats or removes the offending tooth or teeth, the pathological state for which we were called upon to treat becomes markedly ameliorated and oftentimes cured.

If Oral Hygiene is faithfully, earnestly and steadfastly adhered to, many of the diseases now listed in our Medical Nomenclature cease to exist.

SURGICAL SHOCK.*

By J. L. Adams, M.D., and J. Q. Graves, M.D., Monroe, La.

The ultimate aim of all surgical interference is to relieve pain, correct abnormalities, and restore health by removing destructive pathological processes.

The life of the patient is the matter of first consideration, regardless of

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what is to be done, and how it is to be done.

In surgery, as in all other human endeavors where ambition and enthusiasm spurs the surgeon on even to the border of pioneer grounds, the pendulum often swings from one extreme to another, but, between the extremes the truth is always found.

The one, in any overzealous effort to lead in the art of mechanical execution and spectacular technique, loses sight of the all important matter of thoroughly studying the patient as an individual entity. The other, with equal zeal to outstrip his co-workers, gives too much time to studying the details of the individual case, and neglects points of technique and execution that are of paramount importance to the patient.

Before the period of asepsis, infection was the surgeons greatest enemy; for, however much he studied the case and however masterly he executed his technique, his inability to combat sepsis limited his field of usefulness.

To the illustrious Lister, whose untiring efforts made aseptic surgery possible, the world owes an undying debt of gratitude; for it was he who revealed to the world the real cause of fermentation and infection, and made aseptic surgery common knowledge.

Today we have another enemy looming up before us in large proportion, that condition known as Surgical Shock which is claiming a heavy toll daily among our patients who are carried to the operating table. To Fenton B. Turke, of New York, George Crile, of Cleveland, Ohio, and many others, the surgeons of today are greatly indebted for their exhaustive studies into the cause, prevention and treatment of Surgical Shock.

While they have a great deal of light on the subject, and brought out many important points for our consideration, the study of the subject. Surgical Shock is yet in its infancy, and offers a rich field of life work for many zealous young minds. We find it lurking hard by many of our surgical efforts, creeping into every home and hospital when least expected. Like sepsis before the days of Lister, it still defies and laughs at the surgeon—because of the many unknown routes of approach.

There are a number of theories of shock, which time and space will not permit a liberal discussion of, but I deem it timely to give passive mention at least to the theories of Turke and Crile, because their theories of cause and effect of shock throw much light upon the treatment of the same.

After a careful compilation of knowledge gained from experiences with war material and experiments in laboratories on lower animals, Fenton B. Turke concludes that the live animal is only a group of cells, and shock is nothing but a phenomenon of the dynamics of the cell; the phenomenon being produced by a toxin liberated by cell disintegration producing a tissue poisoning and not nerve changes.

Crile considers shock a state of exhaustion where the organism has lost its self mastery, which results from cell disintegration, in the master organ, the brain. That the brain is the seat of the primary lesion is demonstrated by the fact that shock can be prevented by blocking the field of operation with a local anesthetic, or minimizing the response of the brain cell to traumatic impulses by the use of nitrous-oxid-oxygen anesthesia.

Whatever the cause of the surgical shock may be, whether psychic, traumatic or toxic, the basic phenomena are the same, the master organ, the brain, has lost its power of transforming potential into kinetic energy, consequently the organism cannot perform its normal work.

The individual is prostrate; the features are shrunken and blanched; the surface cold and bathed in profuse perspiration; the temperature is sub-normal; the pulse weak and rapid; blood pressure falls rapidly; the alkalinity of the tissues diminished; the viscosity of the blood increased; the splanchnic vessels become highly congested while the peripheral vessels are contracted, and respiration rapid and shallow. This picture gives a clear conception of what is seen in a case of surgical shock.

Causes—With the above definition before us it seems only natural that we should turn to the realm of biology in search for the final cause of shock. A

careful study of which, combined with the experimental data, is destined to offer a working basis, free from prejudices and speculative fantasy.

George Crile holds that the most important causes of shock are fear, pain and traction. Fear may be either conscious or sub-conscious; he has recorded instances where fear alone has caused severe shock. Every surgeon, with any appreciable experience in abdominal work, has observed the effects of traction, or pulling on the viscera and abdominal organs, especially in the upper abdomen.

Second; Hemorrhage is also an important factor in the production of shock, and has to be reckoned with in all surgical procedures. Many observers have noted that the degree of shock was entirely out of proportion to the amount of blood lost, therefore, great care should be exercised in reducing the loss of blood to the minimum.

Third; Prolonged anesthesia, especially ether and chloroform, will produce shock, and often to the very severest degree.

Fourth; Exposure of the tissues to heat or cold will precipitate shock; this is often done by allowing a draught of cold air in the operating room; the use of cold sponges, and by the careless application of cautery or a sponge that is too hot.

Among the most important signs and symptoms of shock, which the surgeon should always keep in mind during any surgical procedure of any magnitude, are; 1st, Acceleration and loss of volume of pulse; 2nd, Blanched and clammy surface with profuse sweating; 3rd, Lowered blood pressure; 4th, Rapid and shallow respiration; 5th, The tissues fail to bleed when incised. The above signal is sufficient to arouse the suspicion of any alert surgeon that his patient is bordering on dangerous ground.

Treatment—The causes of surgical shock are of pre-eminent interest to the surgeon because of their bearing upon the treatment. The treatment naturally divides itself into two divisions, namely, pre-operative and post-operative.

The pre-operative treatment should always be given first consideration, unless the condition of the patient demands immediate surgical attention. Under such emergency conditions we are forced to depend solely upon the post-operative measures at our command.

The most important pre-operative measures are; 1st, Special attention to the nutrition of the patient, and where necessary a high caloric feeding should be maintained for an appropriate interval before operating. 2nd; Absolute rest in bed, keeping the patient warm and comfortable, thereby, reducing the waste product and increasing the unit of resistance. 3rd: Physiologic rest is also of great importance. It means reassurance to the patient that all will be well and no dangers are apprehended. It means an atmosphere of quiet and confidence, and requires much skill on the part of the surgeon to accomplish this end, and can be done then only by absolute co-operation of surgeon, interne, nurse and orderly. 4th: During the operation the body temperature should be maintained by external application. The rate and volume of pulse, and the blood pressure should be kept under close observation, because one of the greatest errors of the surgeon is to allow his patient to drift into a state of profound shock before anything is done to check or prevent it. Nitro oxygen gas combined with local blocking where not contraindicated is of immeasurable value to surgeon and patient, because, as has been shown by Crile, cell activity is lessened by deficiency of oxygen under oxygen gas anesthesia.

The post-operative treatment of surgical shock resolves itself into meeting the conditions and indications as they arise. One of the most dangerous effects of shock is the loss of the power of the master organ to create body heat, therefore, the first indication would be the application of artificial heat to the body. 2nd: The restoration of fluids to the tissues, which have been lost either directly or indirectly. This can best be done by proctoclysis of 5 per cent (soda and glucose); hypodermoclysis; normal saline solution.

3rd: If the degree of shock is acute or due to the loss of blood, transfusion should be resorted to immediately, and

not wait until the paitent has become clammy and pulseless as in former days. If the patient is restless, 1-6 of morphine and 150 atropine by needle is of great value. No medicinal heart stimulant should be given, but, in view of the fact, that whatever blood remains in the body is largely in the splanchnic vessels, vasodilatories are indicated because they relieve the work of the heart during the weaker stage. Lowering the head of the bed favoring the flow of blood to the brain is reputed to be of great value. Sleep and absolute rest are among the most beneficial agents.

When shock is due to hemorrhage the first suggestion is to control the hemorrhage and to compensate for the loss by the introduction of either blood or other alkaline fluids to maintain the alkalinity and prevent undue viscosity of blood.

DISCUSSION.

Dr. Isadore Cohn (New Orleans): The names of Crile, Henderson, Janeway, Ewing and many others are inseparably connected with the subject of surgical shock. Whatever the cause, we know that lowered blood pressure is to surgical shock what the thermometer is to the febrile reaction, and therefore our only hope is to raise the blood pressure and do it as quickly as possible. The most effective means at our command are transfusion, external heat and rest approaching a state of hibernation. There is only one drug will give rest,—morphine, and morphine given freely. The effect of adrenalin is transient. It will raise the blood pressure, but it soon passes. There is only one way of getting fluids in which will have any lasting effect, and that is by transfusion. Transfusion is not to hard to do as many are inclined to believe. The citrated (?) method of transfusion is rather simple. The blood must be properly typed or you will get into trouble,but typing is easy to do. One thing we should make an attempt to accomplish, and that is to have donors typed and ready in case we have a case of surgical shock developed. Hypodermoclysis is too slow for the emergency case. It is valuable, but too slow.

Morphine, external heat and transfusion I believe are the indicated treatments for surgical shock.

Dr. M. Couret (New Orleans): The subject of surgical shock is interesting to me for the reason that surgeons so frequently come to the pathologist with this query: "My patient died apparently without any cause. What do you suppose killed him?" Ruling out other causes at autopsy, such as hemorrhage etc., etc., the cause of the sudden "blowing up" can only be due to surgical shock. There are no definite lesions at autopsy which we can say are those of shock. At Hotel Dieu we have been working towards finding some means of lessening surgical shock which occurs, not infrequently, as late as twenty-four to forty-eight hours after the operation. The methods Dr. Cohn suggested of treating shock have all been tried and tried thoroughly, with comparatively little results. What we have found to be the best is unquestionably adrenalin. Adrenalin is given in five to ten-minim doses from twelve to twenty-four hours before the patient is put on the operating table, and is continued regularly evry three or four hours for twenty-four to forty-eight hours after the patient has left the operating room. We can show you the results in the work of some surgeons who have carried this out faithfully and have lessened their mortality to little or nothing, from operations such as gall bladder and appendicitis, while others who are not giving adrenalin, or giving it in a hap hazard way still continue with the usual mortality.

After all the use of adrenalin in such cases is not new or empyrical. It is a well known fact that fear will reduce to a considerable extent the amount of secretion from the adrenal glands, which is so essential to preserve the function of the liver and other organs. We find so many patients come to the operating table with fear—a common expression from them is "I know that I will die from that operation," and they are frequently right and die—from fright. By giving adrenalin is sufficient quantities you will compensate for its deficiency through fright etc., and lessen your mortality following surgical operations to a great extent.

Dr. E. Denegre Martin (New Orleans): I will speak of but one phase, and that is operative or traumatic shock. What has been said so far covers the subject in a general way. Years ago we went through this same period and we had to give the question a great deal of study. Crile had written so much about his anoci-association that we decided to go to Crile and find out what this wonderful treatment was. After being there a week Doctor Crile addressed us on this subject, and after his address I said to him, "You left out the most important part of the whole subject—you left out Crile." Therein lies the secret. Anyone who has seen him operate will understand me, and the individual who has not would make a good investment to go there. That was the first time I realized that the shock my patients were suffering from was not the shock of surgical trauma, especially in laparotomies, gall bladder and appendix operations—that we were not studying the patient, but were fascinated by the carrying out of somebody's operation, and the patient himself was not taken into consideration. What do I mean by that? If a patient goes on the table in fear and trembling—I do not want that patient. You must get the confidence of the patient—He must be made to understand that he is going to be benefited and that there is no danger in the operation. Of course there are exceptions. But the best thing is to get into that patient and get out as quickly as possible.

When Crile operates nothing is touched except that portion which must be operated—there is no pulling with fingers ,no tearing apart of tissues. When the patient gets off the table he scarcely knows he has been handled at all. We must face this, and not look for cure where we have been the cause of the shock.

Of course we know how shock from hemorrhage is met—by transfusion. I do not agree entirely with Doctor Cohn that transfusion should be used in all cases. I do not believe it is of any value except in shock from hemorrhage. In traumatic shock I do not believe it is any good; on the contrary, that is where I think you want morphine—morphine and complete rest.

The best preparation for shock is to prepare your patient against the possibility and not to inflict it during operation.

Dr. P. B. Salatich (New Orleans): I am a great advocate of adrenalin. I want to mention a case of gall bladder trouble that I operated on under local. Twenty-four hours after operation patient was greatly shocked.

I asked the nurse how often the patient got adrenalin, and she said he was not getting adrenalin. I immediately ordered it and in twenty-four hours the patient was all right.

One point about adrenalin—if you have a bad patient start with ten minims every three hours, but you have to watch it. The nurse will call you and say the patient is scared and worked up, the pulse is fast, and it looks almost like he is doing very badly but this soon passes off. In many patients adrenalin 10 min. has no effect in increasing the rapidity of the pulse, but if it does, next dose give five drops of adrenalin in fifteen drops of water. If they stand that all right, next time give them five and five, and go on up to pure adrenalin. But when you start, give it diluted.

Dr. L. H. Landry (New Orleans): In regard to hypodermoclysis and intravenous infusion—there is a time in shock when these will do good; it is no use waiting until transfusion is indicated; and in that respect I wish to make a very positive statement: That glucose is so far superior to saline solution that in my opinion there is no comparison between the two. Glucose solution should absolutely take the place of saline in proctoclysis, hypodernoclysis and intravenous infusion. If you give a saline infusion, your patient may pick up for a little while, but in two or three hours he is right back where he started from; the saline does not stay in the circulation long. We have been using glucose for the past six or eight years or more, and I would not go back to saline under any consideration. There is a little more trouble to using glucose, because it has to be made fresh; it will not keep longer than forty-eight hours. We have the pharmacist fix a certain amount daily which is sent to the operating room; if it is not used there it is sent to the wards and used as hypodermoclysis or protoclysis or if not used thrown away; it is very inexpensive, so there is little loss.

Dr. E. H. Walet (New Orleans): The combating of shock during an operation that is difficult and requires time is very important. I believe we can help our patients in these cases very much by curtailing the anaesthesia as soon as possible. I have found that when you have been doing some severe surgical procedure and you look at your patient and find him looking like shock, it is a good thing to say to the anaesthetist, "Suppose you stop." I expect to complete the operation before the patient wakes up. In a few instances I have stopped the anaesthetist twenty to thirty minutes before I finished the operation. Therefore I believe that when you have been operating a long time, in selected cases, you can safely tell the anaesthetist to stop.

New Orleans Medical and Surgical Journal

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AMERICAN HOSPITAL ASSOCIATION

The twenty-fifth annual conference of the American Hospital Association held in Milwaukee on October 29 to November 3, was the best ever in the history of the Association.

It is meet and proper that it should have been because the membership is larger than ever, the association was celebrating its silver jubilee and it met in Milwaukee which possesses that most convenient of meeting places, its Auditorium.

Divided and subdivided so as to accommodate comfortably from a committee meeting to a large general session, the auditorium faces four streets, is accessible, and has a total seating capacity of over 8,000, with an exhibition space of over 100,000 square feet. Its availability contributed largely to the success of the conference.

The attendance was not only large, but it was earnest and it was busy. There were sessions from 9:30 to 11 A. M.; from 2:30 to 4 P. M.; from 8 to 10 P. M. All sorts of problems were presented and discussed, ranging from tne size of hospital beds to the style of Hospital buildings, from the way to renovate gauze to the manner of running an out-clinic. Everything was not settled, by any means, but many useful conclusions were reached and much light was cast on all subjects presented.

While there were many representatives of metropolitan large hospitals, the majority present were from the smaller community hospitals, this means that the ladies were in preponderance, which, it must be added, in no way detracted from the efficiency displayed in the proceedings. Although all the ladies were not beautiful, all seemed intelligent and interested as well as energetic and not a few were blessed with commendable pulchritude sufficient to add to the attraction of the seances.

The local hospitals held "open house" on their respective day, there were numerous receptions, teas, auto drives, and the conference closed with a dinner followed by dancing.

One of the important features was the hospital standardization session conducted by the American College of Surgeons and in which took part Dr. Albert J. Ochsner, Dr. Franklin H. Martin, and Dr. M. T. MacEachern, on Monday evening.

The exhibitors provided diversion and instruction. There were some 150 commercial and about a score of literary and scientific exhibits. They were visited by large numbers during the intervals between sessions and deserved all the attention they received.

The officers of the association are entitled to great credit for the manner in which the entire affair was handled and should be congratulated upon the measure of success attained.

EXPERIMENTAL CARBON MONOXIDE POISONING AND ITS TREATMENT.

Few persons, unless endowed with more than the ordinary zest for scientific truth, would care to subject themselves voluntarily to the hazards of carbon monoxide poisoning. Haldane was probably the first one to make the attempt to administer a definite quantity of this poisonous gas, in order to estimate accurately the amount of blood in the human body. Since then Yandell Henderson, with a number of co-workers, have at various times experimented with the gaseous interchange between the alveolar air and the blood stream.

Henderson and his co-workers have had as the object of their research work the establishing of the principles of gas absorption and elimination as applied to anaesthesia and asphyxiation, both with carbon dioxide and latterly with the poisonous monoxide of carbon. They paved the way for three intrepid investigators in this field, Sayers, Massey and McConnell.

Sayers, of the U. S. Public Health Service, Chief Surgeon of the Bureau of Mines, in collaboration with Yant has published the results of his work which not only possess a personal but a scientific interest as well.

The experiments consisted in the inhalation of the air of a 1,000 cubic foot gas chamber into which had been allowed to flow a definite measured quantity of freshly generated carbon monoxide. The experimenter was permitted to breathe the mixture until symptoms became pronounced.

The principle physiological effect seems, according to Sayers, to be that, due to asphyxia, depletion in the oxygen carrying capacity of the blood bearing a direct relation to the concentration of the gas and the period of inhalation. Likewise the effects are in proportion to the length of time and the extent of the oxygen deprivation.

Bearing these facts in mind it is clear that recovery depends on the rapid elimination of the carbon monoxide from the blood under the usual circumstances which attend asphyxiation and without medical assistance this is accomplished to a marked extent by the ordinary process of respiratory exchange, and it is fortunate, as Sayers remarks, that the hemoglobin parts with carbon monoxide at all, i. e., that the reaction between the two is a reversible one.

This normal displacement can be enhanced by the use of other gases which also possess chemical affinities for the hemoglobin. These are oxygen and carbon dioxide, both of which were used in resuscitation experiments by Sayers and his associates.

Analyses of blood samples showed that between 35 per cent and 40 per cent of the oxygen carrying capacity of the blood taken by the carbon monoxide. This produced symptoms varying from violent headache and dizziness to unconsciousness in one case.

The effect in the elimination of the carbon monoxide were tested using air, oxygen alone, and a carbon dioxide—oxygen mixture and the decline in the blood concentration was carefully checked by analysis.

It was found that oxygen alone caused the elimination of the carbon monoxide four times as fast as did air alone. While a mixture of oxygen containing 8 per cent-10 per cent carbon dioxide hastened the elimination five or six times as would normally take place. It is, therefore, the choice in an emergency, and these emergencies occur with sufficient frequency to warrant the keeping of apparatus filled with this gas mixture on hand.

Sayers, Massey and McConnell deserve great credit for the zeal, self-sacrifice and accuracy with which they have carried on this dangerous experiment, all the more so when it is recalled that a fairly narrow margin of 10-15 per cent blood saturation exists between relative safety and a possibly fatal result.

ENDEMIC CENTERS.

When a disease repeatedly recurs and spreads from a region, district, locality or at times even from a city or state, the source from which this propagation occurs is known as an endemic area or endemic center. A disease is said to be endemic in contra-distinction to epidemic when but few people serve to keep the disease active, whereas the

term epidemic implies that a large number of people are attacked or that there is extensive prevalence.

Excellent examples of diseases with endemic areas are those of yellow fever, cholera and plague. Endemic areas for yellow fever exist along the Atlantic coasts of Mexico, Central and South America and the West Coast of Africa. Endemic centers are Guatemala, Spanish Honduras, Costa Rica and the Guianas in the Western Hemisphere, and Senegambia in the African Coastal area. The hygenic conditions and probably rodent carriers are responsible for the endemicity.

Plague is endemic in regions of the Kurdistan Hills, Irak in Mesopotamia, the Himalayas and other regions of India, Tripoli in Northern Africa and the Baikal province of Siberia.

Cholera is undoubtedly endemic in numerous parts of India and Central Asia, for the great epidemics of ancient and modern times have usually emanated from the former country. Cholera spread along trade and caravan routes at one time ravaging the countries of Europe and persisting until late into the nineteenth century. The great prevalence of this disease throughout Russia during the last five years probably also came originally from India via Pesia and the Caucasus.

Typhus fever is said to be endemic in Tunis, Tripoli, Algeria and Morocco, Asia Minor, Persia and Afghanistan. In India an endemic center stretches from Beloochistan in the south to Kashmir in the north. There are also endemic centers in Indo-China, Japan and Mexico, Peru and Chile.

These are examples of endemic diseases whose centers, regions, or areas, must be constantly watched to prevent them from spreading across the boundaries into European or American countries. The character, manners, customs, degree of civilization, sanitary conditions, modes of travel and commerce are indirectly, and the rat, flea, lice and mosquito pests are directly, responsible for the endemicity.

Cholera, malaria, the plague and a number of other endemic diseases supplied the impetus to two great branches of medicine—hygiene and public health. One of these has to do with the study of the characteristics of a disease, its mode of transmission and the methods most practical in eradicating it; the other, public health, deals entirely with the application of the principles which hygiene, including preventive medicine, developed by research.

Our own country has areas where certain diseases are endemic. The hookworm infection and malaria are largely confined to the Southern States. Likewise Rocky Mountain fever is found nowhere else in the world; it has so far been reported from Washington, Oregon, Montana, Idaho, Nevada, Wyoming, Utah and Colorado. The most pronounced endemic center is the Bitter River region of Montana. Rodents are the carriers, and ticks belonging to the genus Dermocentor, the vectors. The dificulty in eradication is apparent in this instance when it is recalled that it is essentially a disease of the lower animale and that six varieties of rodents are involved.

Endemic centers are difficult to eliminate. The eradication depends largely upon the population and it is difficult, even impossible, to change the habits of a people in a short time, even though these habits are responsible for an incalculable amount of suffering and death. However, endemic centers are gradually contracting and in some instances disappearing, though it will require many years of watchfulness and persistent effort before all are completely abolished.

It is generally conceded that a people have the right to live as they choose, to have what diseases their manner of living favors the propagation of, but this right extends only to themselves and ceases at the frontier. The rigid enforcement of immigration laws and personal examination of immigrants from endemic centers when there is cause for suspicion, have saved all the civilized countries of the world from the scourges of the Middle Ages.

DOCTOR AND SPECIALIST.

The titles mentioned above are much abused and mis-used. There are so many kinds of professions, trades and businesses, the adherents of which are known as "Doctor," that some medical organizations are urging all physicians

and surgeons in this country to use the suffix "M. D." discouraging their friends from addressing them as "Doctor"—especially as many see fit to use the slang "Doc" (meaning a half-doctor), whereas they refer to Osteopaths, Opticians, Chiropractors, Chiropodists, etc., as "Doctor."

The term "Specialist" should be used with caution. Many people, especially in the rural districts, confuse a real specialist in medical, surgical or dental work with the advertising quack, who terms himself a "specialist" (in everything, very often!); we know of an instance in which, for this reason, a parish health officer carefully avoided the term, in advising parents about school children, giving, instead, the names of the men doing special work.

As a further mark of distinction, those who are F. A. C. S. or F. A. C. P. should be encouraged to use them after the M. D. on cards, scientific papers, etc.

PROCEEDINGS OF TOURO INFIRMARY STAFF

Clinical Meeting, Oct. 17, 1923.

Dr. Feingold, Presiding.

Probable Lymphatic Leukemia. Dr. Randolph Lyons: I regret that the patient I am reporting is not able to be present tonight, but she went home a few days ago. I could not keep her long enough. Her presence, however, would not be of much value.

Mrs. E. A. D., 27 yrs. Admitted 7-25-23. Discharged 7-27-23. Referred by Dr. Matas. Through the courtesy of Dr. Matas, I am presenting the history taken on her first admission to the hospital, July 25th, 1923.

Complaint: "Sore mouth and nose, weakness and fever." The family history is unimportant. The past history is entirely negative except for pneumonia at 10 years. Patient has two healthy children. No miscarriages, no menstrual disturbances. Habits good.

P. I. Began about 3 months ago with fever and sore throat, after which she had a severe pain in back which was relieved by strapping. Has been running temperature every evening since onset. Has felt weak for past 2 months—soreness of mouth, tongue and throat has not improved. Nose became involved about one month ago. About this time appeared a sore on the left side of her nostril which disappeared in about 10 days, after which a similar one developed under her nose. This one is still present. She has been getting progressively weaker, but continued doing her housework until last week, when she took to her bed.

Was under treatment during past two months without benefit. A Wassermann taken about 1½ weeks ago was negative. Five days after taking this Wassermann her throat and nose become worse. She was advised to have another Wassermann made. This was positive. Two days later two Wassermanns were run on the same specimen of blood and one was positive and one was negative. All positive Wassermanns were made with cholesterinized antigen and both negative Wassermanns with acetone insoluble antigen. It was decided to bring the patient to Dr. Matas for diagnosis.

Pr. H. Patient somewhat emaciated. Anemic. Glands of neck bilaterally enlarged. Moderate general adenopathy. Temperature 102. P. 120. R. 22.

Head and Neck: Pustule at tip of nose. Total obliteration of right nostril from ulceration on inside of alae of nose—deviated septum. Mouth dry. Patches of vesicles on tip and dorsam of tongue. Gingivitis more marked on upper than lower gum. Lips swollen. Ulceration at angle of right, also a fissure. Lips spongy and exudate on surface.

Thorax. Lungs negative. Heart negative. Abdomen negative.

Pelvic examination: Negative. Cervix slightly lacerated. Slight discharge. On left leg there is an infiltrated, discolored area on anterior surface of tibia.

Dr. Kearney: "Excoriations about nasal vestibules, fissures at corners of mouth. Many bad teeth. Gingivitis, glossitis, confined to tip of tongue. Examination of nose unsatisfactory on account of soreness, but no clinical signs of disease of the nasal accessory sinuses found nor any pathology of soft intranasal tissues. Larynx and naso pharynx not examined because of soreness of mouth."

7-26-23. White cell count 28,600 with 97% lymphocytes. Coagulation time 2½ min. Hg. 70. Red count 3,130,000. Color index 1.13.

S. Lymphocytes..	95
L. Lymphocytes..	1
Neutrophiles	4
Eos	0
B.	0
	100

Patient was discharged from hospital on following day (July 27th).

Blood examination on July 28th. W. B. C. 32,800. Hgb. 70. Lymphocytes 97%. Reds 2,400,000.

Blood examination on August 1st. W. B. C. 38,000. Hgb. 70%. Lymphocytes 97%. Reds 2,500,000.

Readmitted to Touro on August 3rd,

1923. Since discharge has run temperature ranging from 100 in A. M. to 103 in P. M. P. 102 to 120. Has become paler and weaker .

P. E. Appears paler. Mod. general adenopathy. Knee jerks present. Pupils react to l. and a. Pustular eruption about mouth. Gums are spongy and bleed easily, but no hemorrhages. Lungs negative. Heart, systolic atapex. No apparent cardiac enlargement.

Abdomen. Flat, some slight general rigidity. Spleen and liver not palpable. No edema of feet. B. P. 114-52.

Dr. K. Nose and Throat. "Evidently has coryza. No other nasal pathology found (except anemia of mucous membranes.) The mouth and lips are much better than when seen on July 25th. However, the anemia of the mucous membranes seems more marked."

Radiographic examination of chest shows "evidence of enlargement of heart to right and left. There is no glandular involvement." (Aug. 7, 1923.)

Urine. Sp. g. 1020. Acid. No albumin, sugar or acetone. Aldehyde negative. No blood, pus or casts.

8-4-23. Small superiosteal swelling found over anterior surface of right tibia—this area is tender; states she had similar lesion on left leg which disappeared. Complains of pain in rectum; small inflamed hemorrhoid noted.

Aug. 5. Nasal condition and eruption around mouth better.

Aug. 6. Complains of left hip. Left inguinal glands enlarged and tender. Swelling on right tibia still somewhat tender.

Aug. 7. Complains of nose being "stopped up." Has some pain in left hip and leg. Hemorrhoid protrudes. Looks more inflamed. Mucous membrane around it swollen.

8-15-23. Hemorrhoid shows superficial necrosis. Left inguinal glands seem to be a little diminished in size. Area of swelling and tenderness over right tibia gone.

8-19-23. Patient has been better for past two days, although reports show a gradually progressing anemia.

8-21-23. Hemorrhoid smaller—necrotic area has sloughed off. m.m. less swollen.

8-23-23. There appeared large vesicle (1.5 cm.) surrounded by area of redness and inflammation, very sensitive, on left post axillary region at level of 6th intercostal. Some tenderness over 6th and 7th intercostal nerves on left side.

8-28-23. Blood transfusion. (Dr. Landry) citrate method at 1 p. m. Husband donor, 500 cc.; chloroform and local used. P. 110 at start and 104 at finish. At 5 p. m. color of fingers and lips markedly improved.

8-29-23. Today patient had some reaction. Temp. 103-4. P. 130.

8-30-23. Examination of throat shows tonsils enlarged and very pale. Gums swollen but are pinkish; gums under upper teeth in folds.

9-10-23. Moderate enlargement of epitrochlear, axillary and inguinal glands. M. membranes paler.

9-22-23. Transfusion (husband) 60 cc. pure blood and 220 cc. of citrated blood.

9-23-23. Slight headache today.

9-27-23. Discharged.

Treatment: Consisted of rest, plenty of food, fresh air, one light X-ray treatment over right cervical glands and right groin. Arsenic and iron. Two transfusions.

There has been a steady reduction in the red cells. They went down still more after the X-ray treatment, which probably did not help matters, until they reached one million. The white blood count went up to 38,000 and then dropped before and after one light X-ray treatment until it went down to 7,000. After two transfusions, when she left she had a red blood count of two million, a white count of 7,000, and hemoglobin 35%. The chart will demonstrate better than I can explain. (See chart attached.)

Before she came in the hospital the blood picture was one of almost all lymphocytes. After coming in the hospital there were 27% small lymphocytes and 54% large lymphocytes. This represents the difference in personal equation. Most of the blood counts on the inside were made by the internes. There was a good deal of variation in the differential counts. The count ran along in July and August up to the 27th with a high lymphocytic proportion. On the 27th she had 22% polymorphoneutrophiles.

On the 28th of August she was given her first transfusion. The polys went up to 48%, then gradually came down again to 23%. Following the transfusion, we first noticed the presence of myelocytes. There may have been a few present before, but they must have been very few. I have not seen as many since. After the second transfusion the lymphocytes went up, but the total whites went down. No enlargement of the spleen. When she left the adenopathy had not increased. The spleen, as far as I could make out, was not definitely palpable. This case is difficult to classify. In the beginning it was most suggestive of lymphatic leukemia.

DISCUSSION OF DR. LYON'S PAPER.

Dr. Matas: The chief interest in this case as far as my connection with it is concerned is in the differential diagnosis between an acute syphilitic infection beginning in the mouth and oral-pharynx and some other form of cryptic or atypical infection beginning in the mouth which would account for the local and constitutional manifestations (including the hematologic findings) which were peculiar to this case. I knew the family antecedents of the patient and was much concerned in the diagnosis, as it meant so much to the patient and her family. The diagnosis of *syphilis innocentium* with the atrium of infection in the mouth had been stated by the physicians who had attended this young woman some time before she came under my observation. The first impression seemed to justify this conclusion. The disease had been ushered in with a sharp attack of widespread and intense stomatitis and fever. The lips, tongue and pharnyx were swollen and covered with grayish patches formed by the coalescence of a number of small blistered surfaces which resembled mucuous patches in a striking way. The tonsils, pharynx and palate were also inflamed in the same way. Saliva constantly dribbled from the mouth and deglutition was almost impossible from dysphagia and a swollen tongue; the breath was foul, the nares, upper lip and margin of the nasal orifices at the muco-cutaneous junction, as well as the inner lining of the nose presented a number of indurated acnoid or furunculoid pustules with centers of follicular necrosis resting on an inflamed and extremely tender base. The submaxillary lymph nodes were enlarged and tender on each side of the submaxillary region. There was a constant headache and a temperature of a remittent type which rose to 103 and over, especially in the afternoons. A weak, rapid pulse, a cyanotic duskiness of the face and marked pallor combined with a general emaciation, completed the picture of a profound general infection which seemed to have its prime focus in the oro-nasal cavity. No distinct separate ulcer or lesion could be distinguished in the multitude of local ulcera-

Date	Erythro cytes	Leuco cytes	Polys.	S.L.	L.L.	Eos.	M.	Mye.	Unknown	Hgb.	Remarks
July 25.	3,000,000	29,000	..	96%	..	..	..	..	....	70%	
July 26.	3,130,000	28,600	3	96%	..	0	0	..	....	70%	
July 28.	2,400,000	32,800	..	97%	..	..	..	..	....	70%	
Aug. 1.	2,500,000	38,000	..	97%	..	..	..	..	....	70%	
Aug. 3.	2,190,000	25,850	9	27%	64	0	0	..	....	55%	Anisocytosis poikilocytosis
Aug. 4.	.....	17,750	3	24%	73	0	0	..	....	....	
Aug. 6.	.....	18,500	5	34%	61	..	..	..	....	33%	
Aug. 12.	1,780,000	15,250	5	42%	53	0	0	..	....	30%	(Dare)
Aug. 13.	X-ray therapy										
Aug. 17.	Blood culture negative										
Aug. 18.	1,560,000	10,250	16	32%	52	0	0	..	....	30%	Anisocytosis (1) 2 nucleated reds. Polychromitophilia
Aug. 27.	1,110,000	6,250	22	62%	16	0	0	few	....	16%	(Dare) Mod. poikilocytosis and anisocytosis—1 normoblast
Aug. 28.	Blood transfusion										
Sept. 3.	1,570,000	7,000	48	46%	6	0	..	..	....	30%	
Sept. 6.	1,800,000	17,000	25	37%	16	..	..	22	....	30%	Color index .83 plus. Dr. E. Bass
Sept. 12.	.....	19,500	23	52%	10	..	0	15	....	30%	
Sept. 21.	1,760,000	17,500	..	..	..	..	..	..	....	28%	
Sept. 22.	Blood transfusion										
Sept. 26.	18,700,000	7,750	20	56%	2	1	1	21	....	35%	
Sept. 27.	.....	.....	10	66%	14	1	0	8	.....	....	Discharged
Oct. 12.	2,000,000	5,250	6.5	75%	11	1	0	4.5	2 (Lym)	40%	4 Nucleat reds (Tallquist)

tions in the mouth as the original seat of the inoculation of the disease, if such existed.

The clinical diagnosis of syphilis, supported by a positive Wassermann, seemed to be justified before the patient was admitted to the Infirmary, and, on the strength of this, one Salvarsan intravenous injection had been given before her admission. However, the patient grew rapidly worse and presented the clinical picture just described when she entered my service at the Infirmary. It was then that the Wassermann which had been reported as positive by one laboratory and contradicted by another with a negative report, was again tried by Dr. Lanford, who found it *negative* for the second time. Dr. Lanford also made a number of smears from the scrapings of the most typical patches on the lips and tongue, but he found these entirely free from the treponema. Then came the blood picture which was made by Dr. Basinger which showed a total leucocytosis of 28,600 and a differential lymphocyte count of 96%. This exaggerated lymphocytosis was confirmed by several careful counts made by Dr. Lyons himself. The hematological and other laboratory evidence eliminated the diagnosis of syphilis, and I then referred the patient to Dr. Lyons, whose interesting account of her subsequent history we have just heard.

The diagnosis now centers on what type of lymphogenous leukemia this is. In a large experience I recall only one case in which an acute lymphogenous leukemia was ushered in abruptly by an acute febrile attack associated with striking and peculiar oro-pharyngeal manifestations. It bore some resemblance to this case though the ulcerations were more pharyngeal than oral. This occurred over 20 years ago; the patient was a very prominent citizen and the diagnosis excited considerable discussion among the medical men who saw him. At that time serology and hematology were in their infancy and the treponema was still unknown. In this case there was a profound anemia, a general adenopathy of the lymph nodes and a low septic fever which never left the patient. At the very outset there was a marked stomatitis and pharyngitis with superficial ulcerated lesions causing much dysphagia and which gradually extended to the esophagus and intestinal tract. Apart from a low hemoglobin percentage and a total red and white count which showed a great increase in the leukocytes, there was no other laboratory evidence available to confirm the diagnosis of acute septic leukemia, of the type described by Pel. of Amsterdam, which I concluded the patient had at the time. The patient lingered a long time and died a little over a year and a half after the inception of the first symptoms in a state of febrile marasmus, anemia and cachexia with a general moderate adenopathy and an appreciable enlargement of the spleen.

In the case now under discussion the patient is still under observation and it is too early to formulate the final prognosis, but the marked improvement of the general condition, the healing of all the mucous lesions, the subsidence of the fever and of the glandular swellings in the neck, the gradual drop in the total leukocyte count and the corresponding increase in the lymphocyte differential, especially after the two blood transfusions administered by Dr. Landry, make me hope that the disease is not a true lymphogenous leukemia, but a lymphadenosis, in which the enormous increase in the lymphocyte count is a transitional phenomenon, with a probability of final recovery.

The recent and most instructive paper by Downey and McKinlay, of Minneapolis, on "Acute Lymphadenosis compared with acute Lymphatic Leukemia" (Arch. Int. Med. p. 80; 32, 1 July, 1923) gives an account of a number of cases which bear a close resemblance to our patient. The blood pictures carefully recorded in this contribution are also very illuminating in conjunction with the clinical data. They teach us that we are only now beginning to learn that lymphatic leukemia is merely a generic term which is applicable to various types of hyperlymphocytosis, some of which are transitional, benign and spontaneously curable, and others are progressive, malignant and fatal.

We also learn that total leukocyte counts and differential counts which do not distinguish between the different types of lymphoid cells are of little value in deciding for or against true leukemia. It is also interesting to note that in the majority of the benign, acute, lymphocytoses reported by Downey and McKinley the exaggerated differential lymphocyte count coincided with the acute oro-pharyngeal mucous inflammations and an adenopathy of the submaxillary and upper cervical glands, as in this case. From all this it would appear that the differential studies of the lymphoganeous leukemias offers a rich field for further clinical and hematological study, and that the usual gloomy outlook of these cases is likely to be much modified in the future by improvements in the present method of differential cytologic diagnosis in this particular field of hematology.

Dr. Lemann: This reminds me of the group of cases reported by Barker and Baetjer a number of years ago. It seems to me that the data presented would warrant the diagnosis of acute lymphatic leukemia even though the patient has not come to exitus. The duration of these cases is usually some three or four months. As I understand it, this case has lasted five months. That, of course, is considerably against the diagnosis. In some respects the case reminds me of a patient whom I saw some years ago with Dr. Cohn in whom the onset was equally sudden and in whom the duration was some three months. At the outset the total white count was not very high, around 10,000, nearly all lymphocytes. The case was also marked by what was thought at first to be carbuncles, which reminds one somewhat of the lesions described around the nose in this case. Also, our patient, as I recall it, had some irregular fever. This case represents a profound disturbance of the hematopoietic system. How we are going to classify these blood disturbances is not altogether clear. We are still feeling our way and trying to put together the pieces of the puzzle.

Dr. Lanford: This case has been of interest to me even before admission into the hospital as one of the specimens of blood examined gave a negative result by my laboratory, which re-

sult was entirely different from the positive report made by two other laboratories. In the absence of any distinct evidence of syphilis no specific treatment was given, although she was brought to the hospital for this purpose. Fortunately, the blood examination made enabled us to quite definitely rule out syphilis as a causative factor.

Because the condition has behaved somewhat differently from the usual course of lymphatic leukemia, I do not think that we should dismiss that diagnosis because so many of the laboratory findings and the clinic evidence suggest such a diagnosis, and while at the present time there may be a diminution in the white cell count, this can be explained on the theory of exhaustion of the lymphoid elements of the body resulting from over-stimulation. I fear that the case will ultimately end as do all these cases of lymphatic leukemia.

Dr. Lyons: I am sorry somebody did not hold out a better prognosis for us. I really do believe she is at present in a stage of a leukemic leukemia. I did not mention where the negative Wassermanns were made because I did not know. It was not in the history. I want to agree with Dr. Lanford in his statement that no matter what the grouping is, the bloods should be matched directly before the transfusion is done. We have had some experience with bloods in the same grouping that did not work out when tested directly one against the other.

NEWS AND COMMENT

Southern Medical in 1924.

By unanimous vote of the councilors, the 1924 Convention of the Southern Medical Association was awarded to New Orleans. Houston, Atlanta and Kansas City made a lively bid for the convention, but the New Orleans delegation, headed by Dr. C. C. Bass, got to work early and with the assistance of the Louisiana physicians and those of our neighboring states, were able to return us a winner. The Southern Medical Association has not met in New Orleans in over fifteen years.

On October 12th there was organized in the New York Academy of Medicine "The American Association for the Study and Cure of Cancer." There were over 60 enrolled from eighteen different states of the Union, and some from outside countries, as charter members.

Dr. L. Duncan Dulkley was elected president, Dr. Curtis Frank Claassen of Brooklyn, vice president; Dr. A. Hirst Appel, Colonel in the Medical Corps, U. S. (retired), secretary and treasurer, with an executive committee of five.

The next annual meeting will be held in Chicago in May, during the meeting of the American Medical Association.

Eighth Congressional District Medical News.

Natchitoches and LaSalle Medical Societies have been added to the list of organized parishes in the Eighth District, and the Congressional Medical Society has been re-organized. As soon as Grant and Winn parishes are admitted, the Eighth Congressional District will be 100 per cent.

The Rapides Parish and District Medical Societies held a joint meeting October 1st at Alexandria. Dr. C. R. Reed of Natchitoches presided. An interesting program was presented on "Relations of the Diseases of Ear, Nose and Throat, to the Diseases of the Human Body, and Vice Versa," by Dr. G. R. Beridon, president of the Avoyelles Parish Medical Society. Dr. J. E. Knighton presented a series of clinical histories with exhibition of specimen on "Miliary Tuberculosis."

Following the program, a luncheon was served at the Baptist Hospital. Talks were made by Dr. S. J. Couvillon, councilor; Dr. S. R. Reed, president; Dr. M. H. Foster, secretary-treasurer; Dr. Clarence Pierson, and Dr. J. L. Wilson. This meeting was attended by over sixty physicians, and was one of the most successful in its history.

The Avoyelles Parish Medical Society met at Moreauville, October 9th. Sixteen physicians attended, including Dr. R. B. Wallace, Dr. M. H. Foster and Dr. C. M. Abbott of Alexandria.

The Bureau of Public Health and Medicine of the American Medical Association proposes to have a monthly radio broadcast of medical talks on subjects of interest to the general public. The committee proposes using long range stations in the large cities throughout the country. In this way health talks can be given to the largest number of people. The material will be prepared by the Editorial Board of the A. M. A. Health Monthly Hygien, and handled through the local medical societies.

Dr. E. Hause of Ferris, Tex., will read a paper before the Orleans Parish Medical Society, November 26th. The subject will be "The Drug Scopolamin," and his paper will cover its application in the fields of laryngology, obstetrics and criminology. The following day he will give a demonstration of his application in criminology. An invitation is extended to all physicians to attend this meeting.

The following chairmen of the sections have been added to the Scientific Program of the Louisiana State Medical Society, to be held in Opelousas, April 22nd to 24th, 1924, since the November issue:

Pediatrics—Dr. Louis I. Tyler, Baton Rouge.

Eye, Ear, Nose and Throat—Dr. C. A. Weiss, Baton Rouge.

We would like to suggest that those who would like to read papers, get in touch with the chairmen as early as possible.

Standing Water of Any Kind Breeds Fever Mosquitoes.

Although yellow fever apparently no longer occurs in the United States, and its future occurrence here is most unlikely, the so-called yellow-fever-mosquito, which is perhaps the commonest household mosquito in the Gulf states, has been shown to be responsible for the carriage of dengue or "breakbone" fever.

The immediate justification of this note is the fact that during the summer of 1922 it has been estimated there were 600,000 cases of dengue fever in the southern United States.

Costs of construction have increased 20 per cent in Louisiana since last spring, when Congress provided $650,000 for the construction of additional buildings at Carville, La. The funds, therefore, are sufficient only for the erection of 17 cottages housing 12 lepers each, together with a dining room and kitchen building and additional power plants, water supply and sewage disposal units. The infirmary needed for treatment of the blind and crippled must await further appropriations.

There are now 174 lepers at Carville, every bed being filled, the inmates including men and women from nearly every state in the Union. The new buildings authorized will add 204 additional beds which will be immediately utilized, since there is a waiting list of more than 100 who wish to enter the institution and many other lepers in the United States aggregating, it is believed, more than 1,000, whom it is desired to segregate as soon as facilities can be provided. One-fourth of the inmates at Carville are totally blind from the disease and the mutilations, especially of hands and feet, resulting from the diseases are such as to remind one forcibly of Biblical descriptions.

The new construction which will be immediately undertaken will probably require several months for completion.

World War Officers Must Apply for Commissions Before November 11th, 1923.

On November 11th, 1923, the granting of commissions in the Reserve Corps, without examination, will cease. All who were officers during the war may, if they get their application through to corps headquarters before November 11th, 1923, be commissioned in the highest grade held by them during the war. After November 11th, anyone applying must stand an examination, which will be by no means easy. Those interested should write at once to Headquarters Organized Reserves, 607 Commercial Bank Building, Alexandria, La., or Headquarters 87th Division, Poland and Dauphine streets, New Orleans, La., for application blanks.

New York Academy of Medicine announces the coming celebration of the 50th anniversary of the founding of the New York Laryngological Society, which, as announced by the New York Academy of Medicine, will take place November 15, 1923, commemorates an event of unusual interest. As far as can be learned this organization now, the Section in Laryngology of the Academy, is the oldest society in existence of the department which it represents.

In connection with the celebration there will be an exhibition representing the importnat contributions made in the progress of laryngology in the City of New York.

Lafayette Parish Medical Society.

Members of the Lafayette Parish Medical Society met at the Elks' Home in this city Thursday night to elect officers and transact other business in connection with the activities of the organization for the ensuing year.

Dr. C. E. Hamilton was chosen president, Dr. L. A. Prejean, vice president, and Dr. Harold G. F. Edwards, secretary and treasurer.

Dr. O. P. Daly was elected a delegate to the State Medical Society meeting at Opelousas next April, and Dr. F. E. Girard, alternate.

Members of the society in attendance included Drs. U. J. Arreteig, L. O. Clark, A. J. Comeaux, O. P. Daly, G. R.

DeLaureal, J. P. Francez, F. E. Girard, C. E. Hamliton, Thos. Latiolais, L. B. Long, N. P. Moss, M. M. Mouton, C. K. Olivier, L. A. Prejean, Harold G. F. Edwards, M. E. Saucier, R. D. Voorhies and W. J. Youngue.

Physicians who were special guests at the meeting were Drs. Homer Dupuy, C. V. Unsworth, Leon Menville and Allen Eustis, all of New Orleans, and Dr. F. T. Gouaux of Lockport.

Following the meeting the members and guests enjoyed the hospitality of the Lafayette Rotary Club at a dinner and dance.

Medical Association of the Southwest.

The annual meeting of the association was held in Convention Hall, Kansas City, on Thursday, October 11th, in conjunction with the fall clinics. The following officers were elected for 1924: President, Dr. W. H. Addington, Altoona, Kansas, and secretary-treasurer, Dr. E. H. Skinner, Kansas City, Mo.

It was voted to hold the next annual meeting in Kansas City, October 13, 1924, in connection with the Kansas City Fall Clinics. The Medical Herald and Electro-Therapist was selected as the official organ of the association, and all members in good standing will receive the journal from this date.

Third District Medical Society.

Physicians throughout the Third District met yesterday at the court house in New Iberia for the purpose of organizing the Third District Medical Society and transact other business in connection with the activities of the organization.

Dr. Lester Williams, president of the State Medical Society, presided, and urged the necessity of a live organization in the Third District.

The following were elected officers for the ensuing year: Dr. L. B. Crawford, Patterson, president; Dr. F. T. Gouaux, Lockport, vice president; Dr. Harold G. F. Edwards, Lafayette, secretary-treasurer.

Dr. Allen Eustis, of New Orleans, presented a most valuable paper on "Pancreatitis"; Dr. Leon Menville, a paper on "Radium Therapy"; Dr. Homer Dupuy, a paper "Dysphonia as a Symptom of Disease"; Dr. C. V. Unsworth, "The Early Symptoms of Paresis."

The society will hold its next meeting sometime during the month of February, the exact date and place to be decided later.

There were some thirty members present.

Monthly Bulletin Shreveport Medical Society for November.

Scientific Program.

Uterine Hemorrhages....Dr. R. H. Blackman
Regional Anaesthesia.....Dr. J. E. Heard
Charity Hospital, November 6th, 1923.

The regular monthly meeting of the Shreveport Medical Society was called to order by President Pirkle. Twenty-five members were present.

Dr. T. D. Boaz read a paper on Middle Ear Infections in Children.

Clinical cases. Dr. Rauls, of Charity House Staff, reported on the para-typhoid patient whose case history was presented at the last meeting. He reported that autopsy findings proved the case to be general miliary tuberculosis, illustrating the fact that a positive widal reaction does not prove that the patient has typhoid fever.

Dr. Herold reported a case of mistaken diagnosis and another of focal infection.

Dr. Morrow told of being approached by a chiropractor who declared that he is going to practice chiropractic in Louisiana, regardless of any opposition which may arise. Dr. Morrow said he was calling this to the attention of the society because he believes this fellow represents the first of an organized attempt to introduce chiropractic in Louisiana.

Dr. Herold announced the meeting of the Fourth District Medical Society October 16th, the third Tuesday of the month. The meetings are to be at Charity Hospital.

On motion the society adjourned.

R. T. LUCAS, Secretary.

Third Annual Fall Meeting, Sixth District Medical Society, Hammond, La., October 31, 1923.

9 A. M.

Invocation—Rev. E. S. Taylor, Hammond.

Welcome Address—Dr. E. M. Robards, president of the Tangipahoa Parish Medical Society.

Report of President—Dr. C. A. Weiss, Baton Rouge.

Report of Secretary-Treasurer—Dr. R. P. Jones of Baton Rouge.

Report of committees.

New business.

Election of officers.

Unfinished business.

10 A. M.

Clinical motion pictures.

Radical operation of breast carcinoma.

Extraction of a bullet (revolver projectile) from the spinal canal by means of laminectomy.

Extirpation of a cerebral tumor.

Retrograde dilation of a cicatricial stricture of the esophagus.

Operative correction of saddle nose.

Correcting the position and reducing large projecting ears.

11 A. M.

Scientific papers.

Insulin Treatment of Diabetes, with Lantern Slides—Dr. Allan Eustis, New Orleans. Discussion.

A Surgical Clinic Illustrated—Dr. Isadore Cohn, of New Orleans. Discussion.

Disorder of the Pitulary Gland Illustrated—Dr. M. L. Graves, Galveston, Tex. Discussion.

1 P. M.

Banquet tenderered the members by the Chamber of Commerce, Rotarians and Tangipahoa Medical Society.

The following doctors attended the Southern Medical Association: Drs. C. C. Bass, R. C. Lynch, J. B. Guthrie, I. I. Lemann, Ansel Caine, Isidore Cohn, Dan Silverman, Geo. Dempsey, Jno. A. Landford, H. B. Gessner, Ernest Samuels, L. R. DeBuys, Allen Eustis, Elizabeth Bass, S. K. Simon, E. D. Martin, P. T. Talbot, A. Levin, H. W. E. Walther, F. M. Johns, O. Dowling, J. B. Elliott, J. T. Halsey, H. Dupuy, J. T. Wymer, J. T. O'Ferrall.

REMOVALS.

Dr. W. G. Young, from Jennings, La., to Port Arthur, Tex.

Drs. C. J. Bloom and R. E. de la Houssaye, from 3529 Prytania street, to suite 509-11 Physicians and Surgeons Building.

Dr. A. A. Keller, from 1215 to 1111 Maison Blanche Building.

Dr. G. M. G. Stafford, from Clinton, La., to 1507 America street, Covington, La.

Dr. R. S. Leadingham, from New Orleans, to 464 W. Boulevard, Atlanta, Ga.

Dr. Chas. C. Sims, from Mooringsport, La., to 530, Giddens-Lane Building Shreveport, La.

Dr. C. A. Hiriart, formerly of Oil City, who has been spending some time studying in New Orleans, has located in Shreveport. He is located at the Youree Hotel, with his office in the Comegys Building.

DIED—Dr. Sidney DeLaup of New Orleans, October 29th, 1923. Dr. DeLaup was a prominent genito-urinary specialist and teacher in the Tulane Post Graduate School of Medicine. He was one of the charter members of the Orleans Parish Medical Society.

MONTHLY BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

Dr. Lucien A. LeDoux, Secretary.

Beginning with this issue there will be published a monthly bulletin of the activities of the society.

Office hours of the society, 9 a. m. to 5 p. m. daily, except Sunday. In addition the library is open at night from 7 to 10 p. m., Mr. Leonard Wilson in charge.

The society, during the past month, held two scientific meetings and a special meeting. The special meeting was held in honor of Professor Hans Finsterer of Vienna. He read a very interesting paper on "Gastro-Intestinal Surgery with Splanchnic Anesthesia."

The following afternoon Dr. Finsterer operated at the Charity Hospital and illustrated his method of local anesthesia. Papers presented at the scientific sessions are as follows:

"A Report of One Hundred Anesthetics with Ethylene Gas," by Dr. E. E. Allgeyer.

"Full Term Abdominal Pregnancy" (a case report), by Dr. Lucien A. LeDoux.

"Sickle-Cell Anemia, with Report of Case," by Dr. S. Chaille Jamison.

"What Produces the Aortic and Hilar Shadow," by Dr. Amedee Granger.

'A Review of a Series of Cases of Fibroids of the Uterus," by Dr. C. Jeff Miller.

"The Drug Scopolamin," by invitation, Dr. E. House of Ferris, Texas.

November 27th Dr. House gave a demonstration of his application of scopolamin to criminology at the Parish Prison. This demonstration was largely attended.

Applications to active membership pending: Dr. S. F. Elder, Dr. Sara E. Huckabay, Dr. J. R. Evans, Dr. H. W. Butler, Dr. W. E. Jones, Dr. H. B. Faris, Dr. C. H. Potts.

The following delegates to the Louisiana State Medical Society Convention, 1924, were elected November 12th, 1923. Delegates: Dr. E. L. Leckert, Dr. W. H. Seemann, Dr. Homer Dupuy, Dr. C. G. Cole, Dr. Chas. Chassaignac, Dr. J. R. Hume, Dr. J. Signorelli and Dr. J. A. O'Hara. Alternates: Dr. P. Graffagnino, Dr. W. W. Leake, Dr. A. O. Hoefeld, Dr. F. R. Gomila, Dr. A. E. Fossier, Dr. T. J. Dimitry, Dr. Marcy J. Lyons, and Dr. Geo. F. Roeling.

Election of officers of the Society for 1924 will be held December 8th, 1923.

The President appointed a committee to extend an invitation to the Southern Medical Association to meet in New Orleans in 1924, composed as follows: Dr. C. C. Bass, Dr. Homer Dupuy, Dr. H. W. E. Walther, Dr. P. T. Talbot, with Dr. C. C. Bass as chairman. Through their untiring efforts we were fortunate in securing this convention for next year.

The Treasurer's report for October, 1923:

Total receipts	$ 216.50
Total expenditures	310.11

Resources.

Domicile Fund, Liberty Bonds par value	$30,000.00
Library Endowment Fund, Bonds, par value	3,500.00
Medical Relief Fund (Savings Acocunt)	96.23
Total Resources	$33,596.23

REPORT OF LIBRARIAN FOR OCTOBER, 1923.

Three hundred and twenty volumes have been added to the completed records during the month. Of these 11 were received from the Journal, 5 by purchase, 4 by exchange, 60 by binding and 54 by gift. Of the ones received by gift, 40 were given to the Library by the Eye, Ear, Nose and Throat Hospital.

Approximately 20 members of this Society attended the Southern Medical Convention in Washington, and the coming year the Society will be represented in its governing bodies. Dr. J. G. Dempsey, Vice-President, Conference of Southern States Statisticians of the Bureau of Public Health. Dr. E. C. Samuel, Vice-Chairman, Section of Radiology. Dr. P. T. Talbot, Secretary, Conference of the Presidents and Secretaries of State Medical Associations and State Health Officers. Dr. E. E. Allgeyer was chosen as a member of the Executive Committee.

DECEMBER PROGRAM.

December 3rd, Board meeting. December 8th, election of officers, 1924. December 10th, scientific meeting. December 24th, scientific meeting.

The Secretary of the State Society requests that our members pay their 1924 dues as early as possible so it will facilitate the work of his office.

The New Hospital at Baton Rouge.—"Our Lady of the Lake Sanitarium" is most beautifully situated. It indeed overlooks the lake. It is adequate and well equipped. It is in charge of Sister

Marie de Bethanie, Mother Superior, who for so many years was director of the St. Francis Sanitarium in Monroe.

On November 8th the sanitarium tendered the members of the local medical society and a few guests a dinner which was greatly enjoyed. Among the guests were: Dr. H. A. Pattison, Special Agent, National Tuberculosis Association; Dr. R. L. De Saussure, staff member of the American Child Health Association; Dr. K. E. Miller, Director, Rural Health Administration, and Dr. Oscar Dowling, President State Board of Health.

The Tri-State Medical Society of Louisiana, Arkansas and Texas, one of the oldest organizations of its kind in the South, will hold its annual session in Texarkana on Dec. 5th and 6th. Dr. Heartsill of Marshall, Tex., is president, and Dr. Frank H. Walke, of Shreveport, is secretary. Drs. E. L. Sanderson and A. A. Herold are chairmen of the surgical and medical sections, respectively. Our next issue will give an account of the meeting.

BOOK REVIEWS.

General Medicine. Practice of Medicine Series, 1923. Weaver, Brown, Prebble, Sippy. Year Book, Chicago, 1923.

It is obviously impossible to review briefly a volume whose scope is so wide. The subjects embraced include infectious diseases, diseases of the chest, blood and blood-making organs, diseases of the blood vessels and kidneys, the digestive system, metabolism and endocrinology. This volume shows a decided improvement over previous ones in the choice of papers abstracted and with regard to the relative length of the abstracts. It has always been the reviewer's opinion that an article worth abstracting should be treated with sufficient length and clearness to bring out what is original or of interest in the paper. Yet this is rarely the case with most abstracts. It is a pleasure to note in this volume that full measure of space is allotted to interesting and important contributions, for example we find eight pages devoted to an article on radiation in the treatment of blood diseases. Furthermore, many foot notes are found interspersed throughout its pages, giving the personal views of the reviewer, either in praise or criticism of the article abstracted. Although we may not always agree with the reviewer, these notes enhance the value and interest of the book to the reader. This book can be recommended to all practitioners who are interested in keeping abreast of the year's progress in medicine. R. L.

First Aid X-Ray Atlas of Fractures and Dislocations. By H. C. Orrin, O. B. E., F. R. C. S. (Ed.) Paul B. Hoeber, New York, 1923.

This little book of 76 pages should prove interesting and instructive to X-ray workers and students interested in first aid. The book has many illustrations of actual photographs and X-ray skiagraphs. The text describes the skeleton as a whole and its individual bones. The treatment of fractured bones is fully explained. L. J. M.

First Aid X-Ray Atlas of the Arteries. By H. C. Orrin, O. B. E., F. R. C. S. (Ed.)

The author renders visible the arteries of the body by means of the X-rays. The entire vascular system exactly as it exists in the human body is beautifully demonstrated. The relation of the arteries to the bones are clearly shown, with the result that definite and exact points for the application of pressure for the control and arrest of haemorrhage now becomes definite facts. Ten beautiful plates of the arterial systems are shown in this little book of 37 pages.

L. J. M.

Diagnostics and Treatment of Tropical Diseases. By E. R. Stitt, A. B., Ph. G., M. D., Sc. D., LL. D. 4th Ed. Rev. P. Blakiston's Son & Co., 1922. Paul B. Hoeber, New York, 1923. Philadelphia

This is a pocket-sized manual of 610 pages, covering in a concise and abbreviated form the diseases common to the tropics. As in preceding editions in part 1, the common disorders are classified and comprehensively discussed and those of minor importance described in less detail. Part 2 is given to differential diagnosis and general laboratory procedures. In this edition many revisions have been made and new illustrations added, and the more recent advances in diagnosis and treatment noted.

The Ophthalmic Year Book for 1922, Volume XIX, Edited by Edward Jackson and William H. Crisp, with a staff of co-laborators. Published by the Ophthalmic Publishing Co. Chicago, Ill.

It is a pleasure to review the Ophthalmic Year Book for the year 1922. You could not expect other than a meritorious volume when the publication is assigned to the editorship of Edward Jackson and William H. Crisp with an excellent staff of collaborators. The first volume was published in 1903 and has been published yearly in a single volume with the exception of volume 15, 16, 17 and 18. The exception volumes were published in quarterly parts. The book was one of the six ophthalmic publications which amalgamated and made possible "The American Journal of Ophthalmology." The year book is issued with the "Journal," these two with "Ophthalmic Literature," which is published with the "Journal," is probably the most complete publication off the American press. The book is a review with digest and bibliography of ophthalmic literature for the year 1922. The table of contents is well arranged and one

readily finds the information sought after. I know of no single volume in ophthalmology which gives in excellent arrangement so much valuable information as is obtained in "The Ophthalmic Year Book. T. J. D.

Ophthalmic Surgery, by Dr. Josef Meller, clinical professor eye clinic, University of Vienna. Third edition, translated by Dr. William M. Sweet, professor of opthhalmology, Jefferson Medical College. Published by P. Blakiston's Son & Co., Philadelphia, Pa.

This third edition of Meller's Ophthalmic Surgery is dedicated to the Rockefeller Foundation, "WITH FEELINGS of the DEEPEST GRATITUDE for the MAGNIFICENT and NOBLE SUPPORT WHICH, in the YEARS OF DSTRESS, it GRANTED the FACULTIES of the AUSTRIAN UNIVERSITIES."

The preface is most instructive, which may be taken cognizance of by certain undergraduate and post-graduate medical schools. I quote: "No special value seems to be attached to systematic instruction, but experience and practice are regarded as the chief agents in completing an education. His appeal is for systematic instruction, and not to permit of surgery until they have been taught the fundamentals." It is misleading to designate this publication a handbook, for it is a monograph. It has not the size of a handbook. It has description of single or limited operations. It is a special treatise on selected operations as performed at the Vienna Hospital. The reviewer desires it to be classed as a monograph, though would offer criticism in neglecting to mention that the lachrymal sac may be extirpated by a conjunctival mucous route. It was a disappointment when he states that the "epiphora disappears through a nervous influence." This may be interpreted as meaning that the epiphora disappears reflexly. He neglects to mention the effect of scar tissue in and around the palpebral ligament being a factor, by irritation of the trigeminus and often explaining the continuance of the epiphora. Those interested in ophthalmology can not afford to be without this book, for he will lack familiarity with a class of operations as performed at the Vienna Eye Institute.

T. J. D.

Excursions Into Surgical Subjects. By John B. Deaver, M. D., and Stanley P. Reiman, M. D. W. B. Saunders Company, 1923.

This book of 182 pages contains eight essays, the surgical matter being by Dr. Deaver and the pathology by Dr. Reiman. The first five entitled Peptic Ulcer, Jaundice, Diseases of the Bilepassages, Trials, Tribulations and Joys of a Surgeon, Some Surgical Conditions of the Intestinal Tract were originally delivered in the graduate extension course of Washington University, Seattle; the one on living Pathology has already been published in the "Journal of the American Medical Association. The other two are now published for the first time. Every one of these essays will richly repay careful reading, emanating as they do from two such well known practical authorities in their respective spheres of action. They deserve to share a place in the surgeon's library alongside of those essays of Moynihan, Randle Short, and a few others.

The Heart: Its Physiology, Pathology and Clinical Aspects. By Dr. Selian Neuhof, B. S., M. D., P. Blakiston's Son & Company. 1923. Philadelphia.

This is one of the most comprehensive and well balanced books on cardiology that it has been the reviewer's privilege to read in some time. It embraces, in its scope, the physiological, pathological, and clinical aspects of cardio-vascular diseases. Graphic methods of cardiac examination are discussed clearly and at sufficient length to be understandable to the average physician, and the frequent combination of polygraphic tracings with electro-cardiograms is a happy one. Furthermore, it is a pleasure to note that the author stresses the importance of information to be obtained from the older time honored non-instrumental methods.

The book closes with a cardio-vascular clinic of some 108 cases. The cases are interesting and instructive. Another feature of value is a well chosen bibliography at the close of each chapter. To all interested in the subject of cardiology this book can be recommended as a practical, comprehensive reference work.

R. L.

PUBLICATIONS RECEIVED

W. B. Saunders Company, Philadelphia and London: *The Examination of Patients*, by Nellis B. Foster, M.D. *Gynecology*, by William P. Graves, A.B., M.D., F.A.C.S., Third Edition. *Pediatrics*, by various authors, edited by Isaac A. Abt, M.D., Vols. 1 and 2.

P. Blakiston's Son & Company, Philadelphia: *The Elements of Public Health Administration*, by George Sparr Luckett, A.B., M.D., and Harold Farnsworth Gray, B.S., M.S., Gr.P.H. *Cleft Lip and Palate*, by Truman W. Brophy, D.D.S., M. D., LL. D., F. A. C. S., O. I., SC. D., F. A. C. D.

J. B. Lippincott Company: *Exercise for Health and Correction*, by Frank D. Dickson, M.D., and Rex L. Diveley, M.D. *International Clinics*, by leading members of the Medical Profession throughout the world, edited by Henry W. Cattell, A.M., M.D., Vol. III, thirty-third series, 1923.

Washington Government Printing Office, Washington, D. C.: *The Medical Department of the United States Army in the World War*, Vol. 1, *The Surgeon General's Office*, by Col. Charles Lynch, M. C., Lieut. Col. Frank W. Weed, M.C., and Loy McAfee, A.M., M.D. *The Yellow-Fever Mosquito*, by L. O. Howard, Chief of the Bureau of Entomology. *Public Health Reports*, Vols. 38, Part 1, Nos. 1-26, also Nos. 40, 41, 42 and 43.

Miscellaneous: *Rubber and Gutta Percha Injections*, by Charles Conrad Miller, M.D. *Habitual Constipation*, by Ismar Boas, M.D. *Proceedings of The Medical Association of the Isthmian Canal Zone, January to December*, 1920, Vol. XIII, Parts 1 and 2. *Les Secretions Internes, Leur Influence Sur Le Sang*, by Dr. Maurice Perrin and Dr. Alfred Hanns.

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